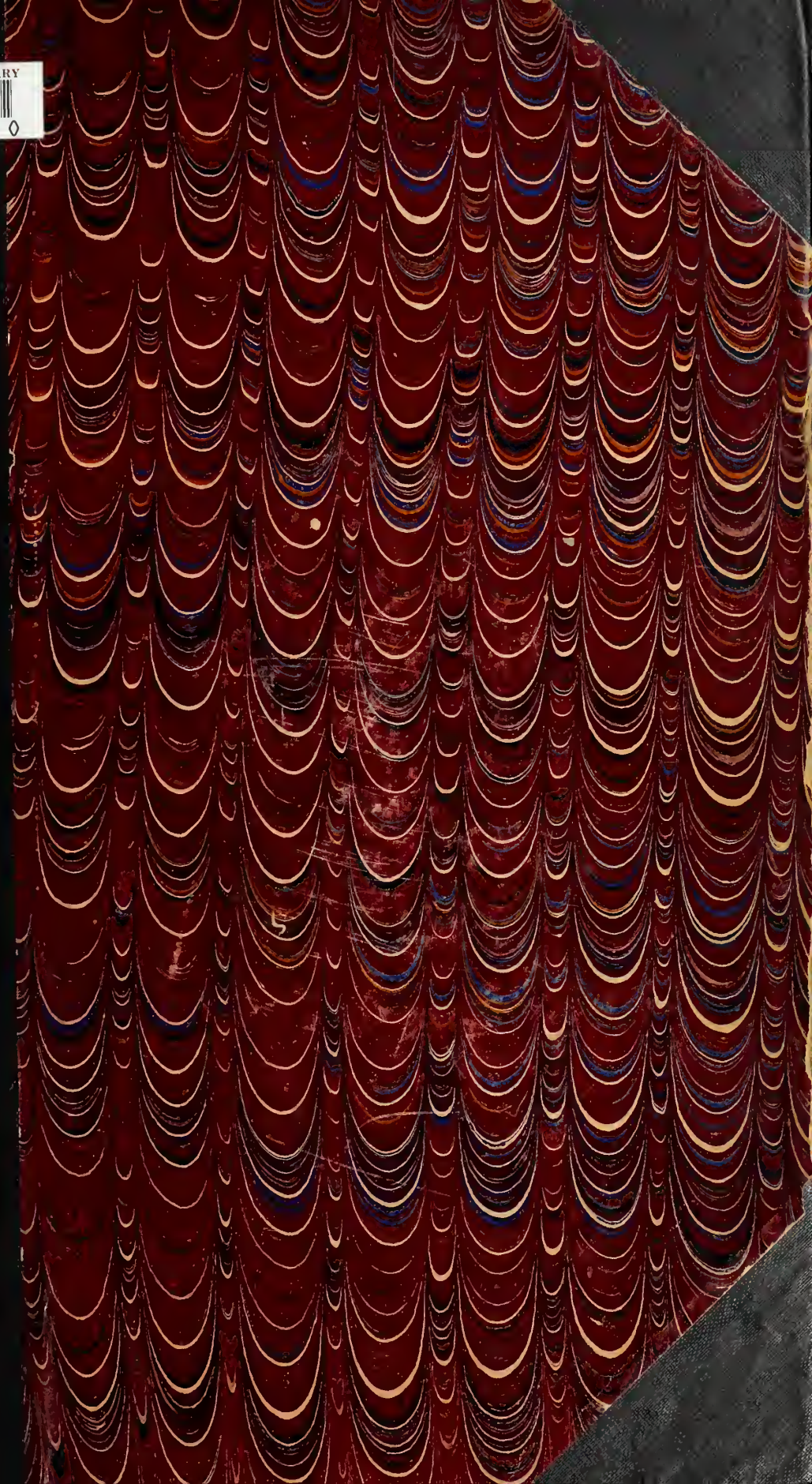


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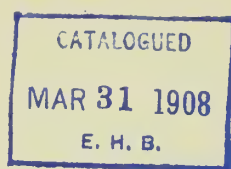
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VOL. XI

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No. 1

ORIGINAL ARTICLES

TRAUMATIC RUPTURES OF THE INTESTINES AND STOMACH; THEIR PROGNOSIS AND TREATMENT.*

E. WYLLYS ANDREWS, M.D.,

Professor of Surgery, Northwestern University Medical School; Surgeon of Cook County Hospital, Mercy and Michael Reese Hospitals.

CHICAGO.

PROGNOSIS UNDER NON-OPERATIVE TREATMENT.

I recognize no such thing as non-operative treatment of traumatic rupture of hollow viscera. The term ought to be discarded. Its use in medical writings serves only to confuse the mind and create a fictitious impression that there is such an alternative method, which may give the patient a chance to live. I deny this emphatically and insist that no patient ever did recover with a ruptured gut or stomach, except those saved by the knife. At any rate, I challenge any one to produce statistics of such recoveries, and I have been unable to find any record of them.

PROGNOSIS UNDER OPERATIVE TREATMENT.

I believe that from 60 to 80 per cent. of these cases can be saved by early operation, and that the remainder die more from associated injuries than because of the bowel or stomach rupture. To sustain this belief, I report 7 cases below, operated upon in the past year, 3 with severe complications, all fatal, and 4 without complications, all recoveries. When we reflect that our diagnosis and operative technique is vastly improved in recent years, the prospect seems good for fixed low mortality in uncomplicated cases. I can see a prospect of a regular percentage of these accidents in large centers affording a diagnosis without mystery or obscurity, operated upon by improved methods, and yielding a good low mortality rate, just as intestinal obstruction or stab and bullet wounds are doing in the modern clinics.

* Read before Chicago Medical Society, Oct. 31, 1906.

It has been my fortune to operate upon a large number of wounds and injuries of the stomach and bowels. I will describe my own technic, evolved from several hundred such operations, viz., stab and bullet wounds, traumatic rupture and perforating gastric, duodenal and typhoid ulcers. The method of irrigation is the only step for which I claim originality. In all these the conditions are similar, in that the belly must be opened widely, explored and washed out, in most cases. While I employ a technic of which none of the steps are original, and one man's system may be no better than another's, it is better for each of us to have his own system in this work and rigidly follow uniformity for the sake of speed and certainty.

Systematic search of the belly for unknown trouble is a tedious and heart-breaking thing for one who blunders along without definite program. The peritoneal cavity is a vast labyrinth to the uninitiated, where-in he easily loses track of what he has done, and, by going over the same

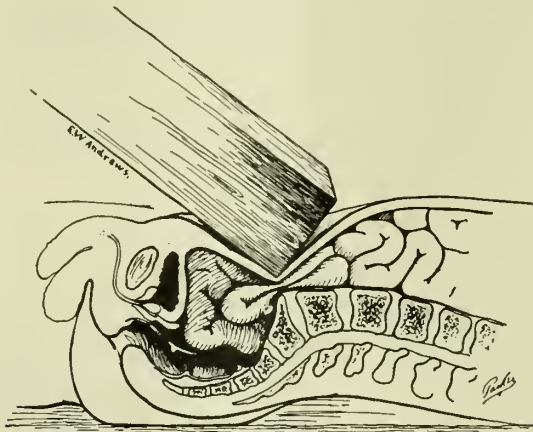


Fig. 1.—Bowel driven back upon promontory of sacrum, or "sacrovertebral angle," showing probable shearing or cutting action of this bony ridge.

ground twice, loses time and the patient's strength. The small intestines alone, lying coil upon coil, are a puzzle and a terror to one who goes blindly groping among them. Add to this the colon, stomach, bladder and solid viscera, with the true and false pelvis, and various ins and outs of the peritoneal cavity, and it is no wonder that unsystematized or careless work results in failure to find lesions and dangerous shock from prolonged exposure and handling. This is to be avoided by having a system, no matter by what precise methods, provided the operator never deviates from it.

After many errors and failures, I have excluded every unnecessary step and proceed as follows, either in stab or bullet wounds or traumatic rupture: Time of operation.—There should be no "waiting for reaction" or waiting for anything. Do not wait for certainty in diagnosis—operate on suspicion or you will be too late. An occasional belly opened without finding a ruptured viscus should not be a source of chagrin, but of relief

and satisfaction. Such an exploration does no harm. It is a life insurance. Do not wait for a leucocyte count, or, at least, not for leucocytosis. If a man has had a severe abdominal injury and you are in doubt open the belly. Even with no distention or vomiting, the bowel is probably ruptured if he has pain, rigidity and tenderness and no fracture of the ribs or pelvis. Every hour and almost every moment that goes by without relief is working deadly mischief and incurable damage.

. Opening the Abdomen.—Follow the linea alba in most cases and enlarge the incision freely as soon as the first inspection shows the peri-

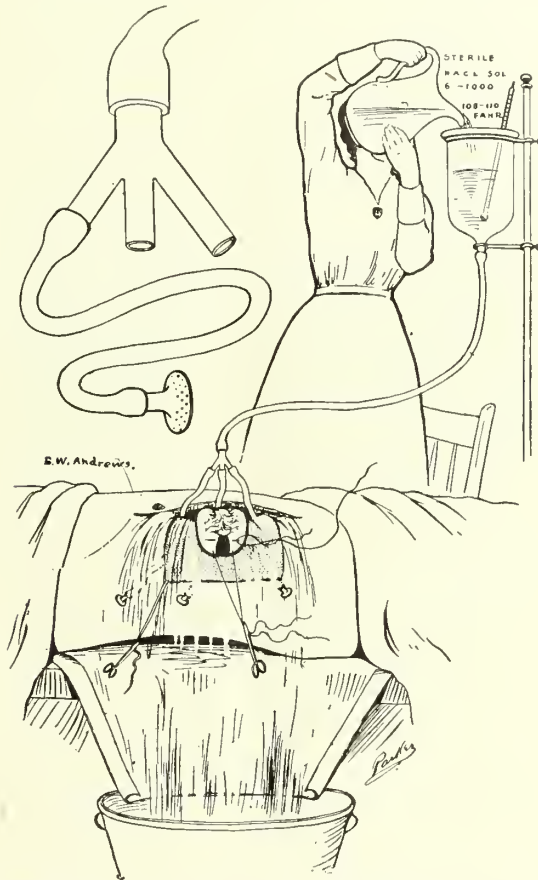


Fig. 2.—Arrangement of apparatus for simultaneous cleansing and operating. Author's triple-rose nozzles for irrigating during operation.

toneum to be soiled. Follow the direction of any tears of the abdominal muscles, as these will usually overlie the deep injury (see Case 6).

Management of Viscera.—Let the viscera bulge out to a moderate extent. The loops, not being worked over, can be covered by moist warm pads. Partial evisceration is desirable and conduces to speed. These patients do not have great gaseous distention, like cases of bowel obstruction. The loop of bowel will lie flaccid on the moist pads and can be easily replaced at the proper time.

AUTHOR'S INSTRUMENT FOR SIMULTANEOUS IRRIGATION AND OPERATION.

Unlike pus cases, these accidents usually cause extensive soiling of the peritoneum. I have been greatly impressed by three things in operating on the dirty peritoneum, where we wash out the cavity: 1, The inevitable soiling of bowel or stomach suture line by extravasated matter, a thing to be regretted, before and during the intestinal suture work; 2, the loss of time required to remove this matter if added to that required for the operation; 3, the stimulating effect of warm saline irrigation on the pulse and circulation.

We can gain all the advantage of hot saline irrigation early and shorten the laparotomy almost one-half, at the same time securing a clean field for the bowel or stomach surface and suture line, by starting our irrigation before all the other steps and continuing it to the end of the operation. For this purpose I use a triple-pointed irrigator (see Fig. 2), with three rose-pointed sinkers, which I place in the abdomen as soon as it is opened. One sinker is placed low in the pelvis; another is passed below the liver and hepatic flexure of the colon and a third near the splenic flexure. Their weight makes them self-sustaining. The bulbs are shifted alternately inside and outside the colon. During the whole operation these three tubes discharge copious streams of warm saline solution, previously sterilized, which gradually remove all traces of foreign matter from among the intestines. Blake's double-tube abdominal irrigator is also a very useful appliance (see Fig. 3). This rising stream of water floats the hollow viscera up and makes them protrude still more, but this is a help rather than an embarrassment. No one should do these operations who expects to work through small incisions or without evisceration. Partial evisceration is good. It is conservative. Its risks are less than the risk of leaving infection or overlooking lesions or of damage by deep handling. The saving of time by large incisions and extensive evisceration is tenfold more valuable than the saving of shock by not eviscerating. The thoroughness of our cleansing is vastly greater when we lift the intestines out rather freely. This does not mean that we put no limit to the handling or exposure or that one part may not be replaced before the next is drawn out. It means only that we draw out freely all such parts as are to be inspected or repaired, just as we lift the stomach, colon or jejunum outside in gastroenterostomy or the cecum outside in appendectomy.

EXPLORING FOR THE TORN LOOP.

Stand on the patient's right side, the assistant opposite, each having at hand a cambric needle threaded with fine or medium Pagenstecher linen. Now comes the really important part of what I have to say. Begin by locating the sigmoid and rectum, and incidentally the bladder wall. One can almost but not quite see to the depths of the pelvis. Use reflected light if necessary or a small glow lamp. If no soiling is found here, lift up the sigmoid and run it through both hands. Follow the colon and inspect all its parts, except the splenic and hepatic flexures, which can only be palpated. Pull up the

cecum and make a fair start up the ileum, passing it through both hands and never dropping its loops. If they are dropped once, you will instantly lose the direction of the bowel and have to begin at one end again. The assistant, standing opposite, carefully watches that side of the bowel and mesentery toward him for wounds or ecchymoses. In ease, for any reason, the search begins midway of the bowel, give a loop of it to the assistant to hold carefully. Then follow its whole length in one direction,



Fig. 3.—Dr. Jos. Blake's irrigator.

repeating the search from the point held in the other. When the upper end is reached, the stomach can be inspected by drawing down the colon, and the lesser peritoneum may be opened if there is suspicion of rupture of the posterior or upper wall of the stomach.

When, at last, the torn viscus is found, further leakage is stopped by light clamps or the fingers, and the lesion repaired. Many times, when no leakage was going on, we have omitted using clamps and extra pads, but

have quickly lifted the bowel on the fingers, stitched the rent and dropped it back.

The closure of the rent, if large, should be by Connell's admirable stitch. If small, as in punctured wounds, I run it up rapidly with a continuous suture, not caring whether it be a Lembert or Czerny, and then, with the same thread, run back, burying the first row. In this way the work is rapid and perfectly safe. In multiple perforations, the assistant and surgeon should each have threaded needles and work simultaneously. I repaired, in one case, thirteen holes in the intestine and two in the bladder, all made by one bullet, and had a good recovery. The peritoneal cavity will now be clean. As much as possible of the fluid should be left inclosed. Drainage should be dispensed with when we dare to do so, which is not always.

Should there be much local peritonitis, I never wipe or peel away the membranous exudative deposits in the hope of removing infectious matter. This membranous exudate may have protective properties and may be useful. The violently inflamed surfaces which it covers may absorb all the more rapidly when denuded. Our favorable cases are those operated upon before this stage of exudate. At any rate, peritonitis in that stage, if general, is hopeless, and, if only local, can better be tamponaded with gauze and left alone. Case 5, below, was closed without drainage and had the easiest recovery in the series.

Report of Cases.—The following six cases, five of which have been previously reported, were operated upon by me in the past year:

Case 1.—M. H., patient of Dr. Whitfield, injured by a piece of iron pipe falling upon his abdomen. A pre-existing inguinal hernia immediately became enlarged in size and irreducible. An operation was performed by some surgeon for strangulated hernia. The contents were replaced and the abdomen not opened above. The following day the patient vomited repeatedly, had agonizing abdominal pains, exquisite tenderness and distention. On the third day he was brought to Mercy Hospital, with signs of severe general peritonitis. Laparotomy disclosed the entire abdomen filled with feces and serum; a complete transverse rupture of the ileum about two meters above the cecum. The mesentery was torn and the ends of the bowel widely separated. Circular enterorrhaphy was done with Connell suture, and prolonged irrigation of the abdomen caused some favorable reaction. Symptoms of peritonitis continued, and the patient died on the fifth day, greatly distended, and with severe generalized septic peritonitis.

Case 2.—In the County Hospital. R. T., aged 24, fell some distance, striking on the abdomen. One hour after the injury he was almost pulseless; pallid; had vomited; had severe abdominal pain; rigidity of recti and exquisite sensitiveness. Patient was anesthetized and prepared for exploratory laparotomy. After five minutes' anesthesia, he suddenly choked and died, some vomitus having entered the trachea. No incision was made. Patient had all the symptoms of traumatic rupture of intes-

tine, accompanied by hemorrhage. The latter was probably an important element, together with the surgical shock, in causing his sudden death. No autopsy.

Case 3.—County Hospital. F. L., aged 24, had previously had a small right inguinal hernia which protruded at times. At noon, on the day of his admission, he was struck on the abdomen by a heavy plank. Severe shock and unconsciousness lasted fifteen minutes. Drank large amounts of water and vomited profusely each time. Had pain in the abdomen, great tenderness and muscular rigidity; also large irreducible hernia of right inguinal region and small left inguinal hernia; marked dullness in lower abdomen, shifting with change of position. No blood in urine. Laparotomy showed yellow fluid in peritoneum; irrigation of deep tubes went on while search for lesion was in progress. Before this was finished, the salt solution came out clear. Transverse rupture of the ileum about one and a half meters above the valve was found. Closure, practically a circular enterorrhaphy, was done by the Connell stitch. The two hernias were found to have nothing to do with the abdominal symptoms. They were reduced by pulling from within. Abdomen closed with multiple gauze drains. Patient took the anesthetic badly and had to be stimulated. Continuous salt solution enemas for forty-eight hours. He thenceforth made an uninterrupted recovery, the stitches being removed on the thirteenth day.

Case 4.—County Hospital. C. W., aged 35, fell with an elevator containing three men, all of whom were badly injured. Struck on his abdomen over a piece of timber; had violent pain and vomiting. Abdomen very rigid, especially in lower quadrant. Lay on his left side with thighs flexed. Flanks resonant. Laparotomy five hours after injury. Beginning with the bladder and rectum, systematic search upward along the intestinal canal discovered a complete transverse tear of the jejunum about one-half meter from the duodeno-jejunal fold; the belly was extensively soiled with feces. Rent repaired with Czerny-Lembert suture. Continuous, prolonged flushing of abdomen with salt solution. Closure with tube and gauze drainage. Patient took anesthetic well and recovered rapidly from the anesthetic and operation. Stitches removed on the eleventh day, followed by good recovery.

Case 5.—County Hospital. W. G., aged 42, fell from scaffolding three stories to the ground. On entrance there was no abdominal symptom, but twenty minutes after entrance, pain began in abdomen and gradually increased. Three hours after injury abdomen very rigid; extreme pain and nausea, but no vomiting. Catheterized urine; no blood. Median incision above umbilicus. Peritoneal cavity contained large amount of slightly colored fluid, with a few flakes of mucus. Mesentery showed numerous patches of irregular-shaped ecchymosis. Occasional similar spots on wall of bowel. After examining the bladder and rectum, all parts of the intestine were passed in review, and a single transverse opening about the size of the index finger was found about one meter from the pylorus. Mushy intestinal contents were escaping from it, a considerable amount of which was already in the peritoneal cavity. In-

testinal wound closed by Connell suture. During the operation many liters of normal salt solution flowed continuously over the field. Abdomen closed without drainage, enclosing as much of the salt solution as would stay in while suturing the laparotomy wound. Subsequent course uneventful. Recovery without signs of septic peritonitis.

Case 6.—F. P., aged 34, entered Mercy Hospital, having been caught between the bumpers in switching freight cars, producing a severe contusion of abdomen on right side, extending around to lumbar region. Had signs of collapse and internal hemorrhage; large ecchymosis over injured part of abdominal wall, but no laceration of the skin. Was somewhat in collapse, had exquisitely tender abdomen, marked rigidity of the abdominal muscles and profuse vomiting. Vomitus and urine free from blood. Laparotomy six hours after injury, with median incision, showed directly, upon dividing the skin, a transverse complete rupture of the right rectus muscle, slightly above the level of umbilicus. The skin was then divided over this transverse tear and the peritoneum below it, thus opening the abdomen with a T-shaped cut. Following the lateral branch of the incision toward the right, it led directly toward the upper part of the mesocecum. The cecum was transversely ruptured, both intraperitoneally and extraperitoneally, about half its circumference and through its mesocecum. Considerable fecal matter was extravasated in the belly cavity, and a large amount of hemorrhage had taken place both into the muscle and lumbar tissues and into the free peritoneal cavity. The hemostasis involved ligation of large mesenteric branches as well as muscular branches in the abdominal wall, and the previous loss of blood was considerable. The rent in the colon was repaired by the Connell stitch. Systematic search of the abdomen showed that there was no injury of small intestines, stomach, bladder or the kidney. Muscle sutured and abdomen closed with multiple gauze drainage. Patient showed profound shock before, during and after the operation. He was stimulated by saline injections, digitalis, strychnia and camphor. His condition was somewhat improved the following day. Upon the third day he died without signs of general peritonitis, apparently more from shock and the previous hemorrhage than from peritoneal infection.

Case 7.—Operated upon by my brother, Dr. Frank Andrews, for Dr. Stubblefield, of El Paso, Ill., farmer, aged 18. Immediately after eating, was kicked in the epigastric region by a horse. Reaching El Paso, Dr. Andrews operated in a farm house about six hours after the injury. The patient was found in collapse; abdomen exquisitely tender; pulse rapid and weak; much straining and nausea, but slight vomiting. No blood in the vomitus. Abdomen somewhat distended. Laparotomy disclosed four wounds of small intestine, probably the jejunum. Three of these were about 1 cm. long; the other about 3 cm. These wounds were repaired by running Czerny-Lembert sutures. An interesting feature of this case was that the patient, having eaten a breakfast of spinach, a large amount of this grass-green, undigested material had escaped from the rents in the bowel and lay among the loops of intestines. This material was washed out. The abdomen was closed without drainage, and the patient made an uninterrupted recovery.

THE TREATMENT OF DIFFUSE SUPPURATIVE
PERITONITIS.*

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The paper deals with the operative and postoperative treatment of diffuse peritonitis and not with the preventive treatment. The degree of peritonitis, in the cases reported, is of the type wherein the exudate extends over at least the greater part of the peritoneal cavity, accompanied with definite signs of inflammation of the peritoneum. The extent of the exudate was determined by the return flow irrigator, which method was found reliable. The series includes seventy-eight cases of diffuse peritonitis due to appendicitis, contributed by Drs. L. W. Hotchkiss, C. H. Beck, W. Martin and the author; thirteen caused by the perforation of gastric and duodenal ulcers and traumatic perforations of the intestines, all with extravasation of gastric or intestinal contents, contributed by Dr. Peck and the author, and eight cases of typhoid perforation operated upon by the author. The series includes all the cases of diffuse peritonitis occurring in their services since the treatment to be described was begun. All cases, no matter how severe, were given the benefit of operation.

The principles underlying the operative treatment are, first, to remove, as rapidly as possible, through a small incision, the cause of the inflammation; second, to wash or irrigate the peritoneal cavity, and, third, to use as little drainage as possible, and not to attempt to drain the peritoneal cavity. The postoperative treatment consists in placing the patient in bed in a semi-reclining position, the administration of large quantities of saline solution by rectum, either by intermittent irrigation with two tubes or by continuous proctoclysis; the washing out of the stomach and the absence of food until peristalsis has been established; the administration of morphin immediately after operation, but not after the first twenty-four hours; catharsis not employed until peristalsis has been established.

Washing of the peritoneal cavity is done by the double-current irrigator, which has been described by the author in the *Journal of Surgery, Gynecology and Obstetrics*, May, 1906. By it, irrigating is done rapidly, requiring from three to five minutes. The advantage of irrigating is that extravasated intestinal contents and inflammatory exudates are removed more quickly than can be done by drainage. Irrigating with hypotonic saline solution also prevents the absorption of toxins, not only by the removal of the toxins, but by instituting osmosis, by which the water of the irrigating fluids is absorbed into the vessels and the circulation of the patient, while the toxic substances in solution are left behind. Irrigation can be considered as a rapid form of drainage and not attended by its dangers. Deep drains, leading to the peritoneal fossæ are only used when some material has been left behind after washing, which would tend to prolong the inflammation, such as fibrinous exudates and blood. In all

* Abstract of a paper read before the Chicago Medical Society, Nov. 21, 1906.

the cases the abdominal wound was drained, the drain passing just into the peritoneal cavity. This was found to prevent suppuration in the wound.

In regard to the results in ninety-nine cases, there were four in which secondary abscesses formed, two of which were drained, two were not drained. Of the seventy-eight cases caused by appendicitis, fifteen died, a mortality of 19.2 per cent., of which seven were not drained and eight were drained. Two of these cases died of complications, the peritonitis having resolved; two were moribund and died shortly after operation; the others died of sepsis and the continuation of the peritonitis. Of the thirteen cases caused by perforation and ruptures of the stomach and upper intestinal tract, four died, a mortality of 30.7 per cent. One of these died of ileus, due to adhesions, on the twenty-sixth day after operation; the other three deaths occurred in patients operated on thirty-six hours after perforation. Of the eight cases caused by perforation of typhoid ulcers, four died, a mortality of 50 per cent. In the stomach series, of the cases that recovered, four were drained to the line of suture in the stomach, one to the pelvis, and four were not drained. Of the cases that died, two were drained and two were not drained. In the typhoid series, of those that recovered, two were drained and two were not drained. Of those that died, all were drained.

In conclusion, it may be said that the improvement in the results in the treatment of diffuse peritonitis seems to be due, mainly, to the rapidity of the operation, with consequently less injury to the periosteum and shock to the patient; to the use of large quantities of fluids for the elimination of toxins; to giving rest to the intestinal tract, and possibly to the Fowler position.

In regard to washing of the peritoneum versus draining, it is still an open question, but definite rules can not be laid down as to the treatment of all cases of peritonitis, some requiring irrigation and some not, while, on the other hand, some need draining and others do better without drainage.

DUTIES AND OBLIGATIONS RELATING TO TUBERCULOSIS.

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This paper is presented with a view to emphasizing certain facts in connection with this subject and with a firm conviction that if the importance of the "duties and obligations" could be fully realized by the several parties concerned, and if these obligations were faithfully and conscientiously fulfilled, we might hope that, in time, tuberculosis would become a rare disease, if not completely exterminated.

As fresh air is one of the most important agents in the preservation of health, it becomes a duty of the parent to provide children with a plentiful supply of this abundant commodity, not only in the living rooms during the day, but more especially in the sleeping rooms at night. Much education along this line will be necessary before air will be deemed

one of the essentials. Too many persons, especially among the ignorant, have a morbid fear of "night air," and are unwilling to permit any of it to reach a sleeping child until it has been thoroughly devitalized by confinement in a closed room for several hours, and too often among the poorer classes have been vitiated by the exhalations of a large family, living in one or two rooms and toasting themselves, as well as their food, by a stove which aids in the destruction of the life-giving air, which is still further depreciated by one or more coal oil lamps, and often by the fumes of tobacco, which fill the room after the children have been put to bed. This is no fancy picture, but one which prevails in thousands of homes. It is not too much to say that the want of fresh air is one cause of defective vitality; one of the predisposing causes of tuberculosis. The conclusion is obvious. Were all parents and guardians performing their full duty in this regard, fewer children would become tubercular; fewer would have their vital resistance to disease reduced to the vanishing point. It is an obligation of parents and guardians, then, not only to provide an abundance of the best air obtainable for the growing child, but also to educate him regarding its importance to health.

In the matter of food and clothing it may be presumed that parents will give their children the best they are able to provide, but the great prevalence of diseases of the digestive tract of children inevitably leads one to the conclusion that much might be done by a more careful supervision of their food. Probably of not less importance to the child is the care of it when ill with what parents are disposed to call "slight ailments," and which they often feel competent to treat either with the so-called "simple remedies," or, as more frequently happens, with some form of patent "dope." The warning to parents against this can not be too strong, especially in the catarrhal affections of the air passages, where the tendency is so great to use some form of "cough cure," and in the glandular swellings, where the "blood purifiers" are so highly recommended. Another class of cases may be mentioned, in which harm is often done by "home treatment;" those which begin by pain and swelling in joints, and which are so frequently called "growing pains," or rheumatism, in which slight injuries to the part determine the colonization of tubercle bacilli, with the resulting "white swelling."

Teachers in our public and parochial schools have important duties regarding the children under their care, beyond simply instructing them in the rudiments of education. Teachers spend several hours a day with children; they have excellent opportunity to observe their condition and the variations from day to day; whether the child is in good health or is declining; whether subject to "colds" and catarrhs; whether dull and listless or alert and bright; flushed with fever or pallid from cold. Observation of these facts implies a duty on the part of the teacher to notify the parents and to suggest investigation. A special duty of the teacher is to see to it that the child is not confined to an illy ventilated, insufficiently heated or overheated room; that all children showing signs of disease be sent home with a note explanatory of the condition; that over-indulgence in violent exercises, especially "rope jumping," be avoided.

In this connection it may be as well to insist that the habit of exchanging pencils, and the use of a common drinking cup, should be positively prohibited in schools.

Employers of any form of labor are often indifferent to the welfare of those in their employ. Some are ignorant of dangers to which their help may be exposed and also ignorant of the danger to which illness in their employés may expose them; but it is manifestly a duty to provide healthful places in which their work may be carried on. All workshops, stores, factories and even the kitchens should be kept in a sanitary condition. The cities are abundantly supplied with an ignorant and disease-breeding working population, and a strict supervision is necessary in order to prevent disease in these and the consequent exposure of the employer's family to infection. This is particularly true of house servants, as a single one may infect every room in a house, thus exposing every member of a family to the disease. This is especially true of tuberculosis. A strict rule should be enforced against spitting on the floors or in or about stores, factories or shops where persons work. I have been impressed by the neglect of duty on the part of municipal officers in the enforcement of ordinances relating to the public health. The police, whose special duty it is to see that the ordinances are observed, are frequent violators of the "anti-spitting ordinance."

The most obvious neglect of duty on the part of city and county authorities is in their failure to provide for the care of the tuberculous poor. Whenever this matter is brought before these officers we are informed that the city pays taxes into the county treasury for the maintenance of the poor; and the county authorities tell us they have a place for the care of the paupers and suggest the "poor farm" as the proper place. How long will it take to educate the public to the point that they will no longer permit this? It is certainly the duty of health officers to point out the necessity of the proper care of all tuberculous poor. Physicians should second their efforts by all honorable means. The proper officers in cities, towns and counties should institute some systematic method for the cure of those now tubercular and for the prevention of the further spread of the disease.

While we believe that the laws governing the state board of health are open to criticism in several particulars, we are obliged to admit that in the protection of our citizens from invasion of the state by epidemic diseases it is quite efficient, but when we see that consumption causes the death of more persons than all other contagious and infectious diseases we feel like suggesting to our Governor that a strong effort on his part to secure the passage of suitable laws for the prevention of that disease would redound to his honor, and, if successful in securing such laws, would be of untold benefit to the state and to mankind. The legislature which will recognize the importance of this measure and pass such bills and make suitable appropriations for properly carrying out their provisions, will place the names of its members high on the roll of honor.

We see persons in every community who spend much time and money for the relief of the sick and needy. This is to be commended. But

there are many who are disposed to be charitable who give freely for any object presented, without inquiry as to the merits of the case, and too often the so-called "charity" does more harm than good. In order that the best results be obtained from contributions of this kind, some system should be established in each community. Mr. W. H. McClain, general manager of the St. Louis Provident Association, says that much of the money given for charitable purposes is "money worse than thrown away." We may not take so strong a position regarding the money or other aid given the consumptive, but we may say without fear of contradiction that the same amount, judiciously used to prevent the disease, would often do far more good. A few days of rest for the overworked woman, with good food and freedom from worry, may save her own life and enable her to care for her children; may abort a disease which would cause a year of suffering and end in death. If the charitable persons in each community would get together and take steps to find the cases of incipient tuberculosis among the poor, and would provide the means for their subsistence until they were able to care for themselves, they would be doing far more good than they can possibly do by aiding only the advanced cases, as is usually done.

The wealthy citizen, who wishes to do something to perpetuate his name, would find this a particularly inviting field. It is probable that in every community there is some one who will be willing to aid in the establishment of sanatoria for the care of the tubercular if the matter is presented in the right way. The world is full of good people who are ready to give of their abundance for any worthy object; the neglect of this form of benevolence in the past is due to the newness of the present aspect of the subject. When there has been a more general education along this line, there will develop an irresistible sentiment in favor of the prevention of the disease by the proper care of those affected. We may hope some time to see cities, towns, counties and villages supplied with suitable places for the care of the tubercular. Let us so educate the public that the most popular form of endowment will be the endowment of sanatoria, so that to die rich will be a stigma so long as there are sick poor to be cared for.

We have now considered several classes of persons whose duties and obligations are based only on moral or humane grounds; we will here refer to some whose obligations are, or should be, made legal and should be rigidly enforced. In most cities the laws and ordinances require street car companies to keep their cars in a sanitary condition, a requirement apparently more often honored in the breach than in the observance in many places. Dust and dirt are permitted to accumulate under the seats and on the ledges and moldings; spitting is permitted on almost every car line in the country, though ordinances against this form of defilement are now very common. In some cities, conductors are instructed to inform passengers who are seen to spit on the floor of the penalty for violating the "anti-spitting" ordinance, and, if he still persist in his pernicious practice, to cause his arrest. Observation shows that few conductors ever pay any attention to this important duty. In winter in many places the street cars

are insufficiently heated, favoring the invasion of disease, especially catarrhal affections, the forerunners of pulmonary tuberculosis. There have been many cases of lung disease attributed to a "cold" acquired while riding in a cold car.

The steam railways are even worse than the street cars, for the reason that longer trips are usually made in them; their furnishings are usually more subject to infection; and, being occupied for a longer time by diseased persons, the chances for infection are much greater. Sleeping cars, with their closed berths and heavy draperies, require the strictest sanitary inspection. Thorough fumigation and disinfection should be required at the end of every run; by this means persons boarding a train at any terminus or at any point on the line would be assured that no infection need be feared from former occupants. Under present conditions, with so many tubercular persons traveling, some of whom, because they are tubercular, engaged in pursuits requiring travel; others, seeking new locations for the benefit of their health and spending considerable time in the cars and thus infecting berths and cushions, the wonder is, not that so many persons acquire the disease, but that so many escape infection.

Proprietors and managers of hotels and boarding houses should be impressed with a sense of their obligation to protect their guests from the danger of infection. As in the case of the railroads, hotels entertain numbers of persons who are afflicted with various diseases, tuberculosis being the most common of all; and it is not saying too much to assert that one careless tubercular person may deposit enough tubercle bacilli in a room in one night to infect all succeeding guests for months to come. The obvious duty of the proprietor is to see that his rooms, bedding, couches, walls, window ledges, draperies, carpets, rugs and furniture shall be in a sanitary condition upon the entrance of each guest. Chambermaids and scrubwomen are particularly liable to contract tuberculosis, and many cases among these persons may be traced to exposures in the line of their duties in cleaning rooms occupied by those afflicted with that disease. Again, many of these women have the disease and, being ignorant of its dangerous character or careless as to where they expectorate, may themselves infect the rooms they are supposed to clean. The process of cleaning furniture with a dry cloth or with a brush can not be too severely condemned. The cheaper hotels and the poorer class of boarding houses are most to be feared, and are the places which should be most strictly inspected. In these cheap lodging and boarding places many persons are lodged in unventilated rooms; often to the number of six, eight or ten; the atmosphere reeking with the exhalations from unwashed bodies, still further polluted by the fumes of beer and whisky, and the whole saturated with tobacco smoke. The sick and the well constantly suffer from the effects of the vitiated air; and, if one is tubercular, the probabilities are in favor of the infection of others. In the cities there are many places such as are here described; the results, while often remote, can scarcely be said to be the less certain.

Of individual responsibility, it can always be said that while companies and corporations may evade their plain duty because of a divided

responsibility, yet each member of a company or corporation or of a community has such plain personal "duties and obligations" that, if each performs his part in the service of hygeia, there will be nothing of importance left undone.

It is manifestly the duty of every person to avoid every possible means of communicating infections to others. It is also a duty falling upon those who are better informed in regard to such matters to use their best efforts to instruct the uninformed, so that no one may plead ignorance as an excuse for violating rules of common decency. The spitting habit, so firmly fixed upon the American that a recent traveler from Europe alluded to it as an American trait, should be abandoned. This result may be accomplished only by persistently keeping it before the people; by educating the young in the ethics of life; by passing laws and ordinances prohibiting spitting; by early and careful instruction in the highest type of personal hygiene. This early instruction must be begun in the home and continued in the schools, so that no child will be ignorant of the evils of the habit nor indifferent to the consequences. A distinguished St. Louis physician said recently that "spitting should be absolutely prohibited in the streets as well as on the sidewalks"; and while this would, if such stringent laws could be enforced, certainly greatly lessen the deposit of bacilli in places where they could be taken up by air currents and deposited in the air tubes of others, yet it is too much to expect; the enforcement of the ordinances against spitting in street cars, on the floors of public halls and on the sidewalks and in other public places is sufficiently difficult, and, indeed, is impossible with the present police system in any city in the country. The only sure way is to so educate the people that each one will be mindful of his own duty to his fellows and conscious of the indecency of the foul habit of spitting.

I trust that in calling the attention of physicians to their obligations I am not doing more than my own duty. It is not too much to say that more is expected of the doctor and in the final accounting more will be required of him because of his superior knowledge. It is also true that many doctors are so engrossed with money-making schemes, with fads and specialties in medicine, with fast horses, with automobiles, with women, wine and other dissipations, that patients have but slight consideration; that efforts directed toward the general betterment of mankind have but a small share of their attention. I am pleased to add, however, that the large majority of doctors are well disposed toward any measures intended for the amelioration of human suffering, of which the prevention of disease, especially of tuberculosis, is the most important. It is to this large class of earnest, conscientious and honorable physicians that I appeal for aid in the diffusion of knowledge relating to tuberculosis. They can do this by assisting in the organization of societies for the prevention of tuberculosis in their respective communities; by instructing those with whom they come in contact as to the character of this very general and fatal malady; of its curability; of its communicability and of means by which it may be prevented.

I deem it particularly incumbent on the members of the state and county societies to use their influence, individually and collectively, for the improvement of the condition of the tubercular poor; to urge the passage of laws by the state legislatures providing for the care of this class of unfortunates; to aid in the election to the legislature of those who will aid in this work; and, in the counties, to work for the election of such supervisors as will be willing to do all in their power to provide for the care of the poor in their respective territories.

I consider it one of the highest duties of the physician to instruct his clientele in the rudiments of the prevention of disease, and especially of tuberculosis; to warn parents against a needless dosing of their children; against the harmful results of neglect in acute colds; against every form of faulty hygiene. Above all the obligations of the doctor is his duty to his patient to make a sure and early diagnosis in tubercular disease. The failure to make this early diagnosis has stood in the way of the recovery of many thousands of persons; it has been responsible for many more thousands of exposures to the infection and for additional cases innumerable.

In a paper entitled "A Plea for the Victim of Tuberculosis" I have briefly indicated how we may perform some of our duties as physicians as follows: "Collectively, we may prepare for publication in the lay press circulars giving information regarding tuberculosis; its absolute incurability with any known drug; the great danger of relying upon the lying statements of manufacturers of so-called cures for consumption; the necessity for fresh air and good food for those already diseased; the communicability of the disease and the manner of its limitation; the fallacy regarding heredity; the futility of a change of climate as a curative measure; the curability of tuberculosis in the home climate and in the home, and the means by which this may be effected; the adoption of resolutions and their proper presentation to legislative bodies, both municipal and state, urging the needs of this large and ever-present class of unfortunates who have fallen victims because of ignorance or wilful neglect of measures which might have prevented the disease. As individuals, we can aid in the distribution of literature; we can instruct our patients and friends in the dangers of neglect of minor ailments, and show them that we are not selfish in it, as is sometimes charged; we can protest against an indulgence in nostrums of all kinds, and especially those which, by their very action in allaying the cough, show them to contain sedatives which mask the real disease, and which, by their delusive and pleasing effects, may delay the examination into their condition until disease has made such inroads that recovery is impossible, or is, at least, rendered doubtful. In dealing with the evils of medicine taking, we will, at all times, be suspected of being mercenary; of advising against the use of these remedies because we wish the patient to come to us; but this we need not fear; we should rather fear the giving of our tacit sanction to the use of a remedy which might endanger the life of our patients by holding out the delusive phantom of hope in even one single case which might have been saved by early diagnosis. This we may do as individ-

uals to aid in the prevention of the disease. But this is not the limit of our duty. There is another duty we owe to our clientele, one which will have a most important bearing on the subject, and which is still our duty, if we disregard all other obligations which have been mentioned. This is our obligation to make an early diagnosis in every case of tubercular disease. This duty we can in no wise avoid. Its importance is twofold. First, it is of the highest importance to the individual in whom the discovery of tuberculosis is made, for the reason that only in early diagnosis is there hope of a cure. Second, the early diagnosis assures attention to such details as will prevent infection of others, since an early diagnosis means that no tissue destruction has resulted, hence there has been no expectoration of bacilli, by which the disease may be conveyed to unsuspecting victims."

In conclusion, I may say that every intelligent human being has duties and obligations relating to the prevalence of this disease; that for the proper education of all classes it is necessary that the doctor and the teacher should be ever vigilant in their efforts in the prevention of this disease; that indifference on the part of the doctor is one of the chief obstacles to the establishment of suitable sanatoria, free tuberculosis dispensaries, tent colonies, the organization of societies for the prevention of the disease, and other measures, municipal, county and state, so imperatively necessary for the good of mankind.

DISCUSSION.

Dr. J. W. Pettit, Ottawa:—There certainly can be no exceptions taken to anything the essayist has said. The great trouble, however, in dealing with the question of treatment is that we do not sufficiently recognize the importance of careful attention to details. The profession is agreed as to general principles, but we find ourselves in a very chaotic condition when it comes to the question of how to apply these general principles. The great trouble is that both the profession and the laity regard the treatment as both simple and easy. It is neither.

We also fail to recognize the limitations of treatment. Many have jumped to the conclusion that because tuberculosis is curable that it is curable in all stages. This is only true in a very limited sense. Advanced, and even far advanced, cases may be cured, but these are the exceptions. The rule is that they can not. It is only the incipient cases that can be cured with any reasonable degree of certainty. Few propositions in medicine are more inviting than the treatment of an incipient case of tuberculosis. Few more discouraging and disappointing when the disease is well advanced.

Both the profession and the laity also make a mistake in estimating a cure. Patients who do well will usually get rid of the mixed infection within thirty to sixty days. During this time there is very marked improvement, with an abatement of all the active symptoms. Patients look well, feel well and usually think they are well. It is difficult for the physician, who knows the patient is not cured, but simply on the road to recovery, to make him and his friends believe that the condition described is not a cure. The characteristic optimism of the tuberculous patient, if not properly regulated, lures him to his destruction.

Another practical fact which militates against the treatment is that it is made unnecessarily expensive, especially in the leading institutions of the country.

The element of time necessary to effect a cure in the average case is also ignored by the patients and friends. Public expectation as to the benefits of the modern treatment of tuberculosis will not be realized until we have learned to confine our efforts more largely to incipient cases and firmly impress the patients in the advanced stages of the disease that they must not expect a cure

unless they can and will follow out the rigid rules of sanatorium treatment for a number of months.

Dr. Clarence L. Wheaton, Chicago:—It seems very fitting that the opening paper on this program should deal with tuberculosis. This disease presents more complex economic problems than any other, and it is producing more suffering than any other disease, with the exception of insanity. Dr. Lillie has covered the subject very thoroughly in his paper, and I can add but very little.

The tuberculosis problem as it is presented to us, especially in the larger cities, is essentially one of education. We must educate the masses. With that end in view, the Chicago Tuberculosis Institute has been established, and they intend to construct free dispensaries in the crowded districts of Chicago, to open a day camp, to which children, especially, can be sent, an information bureau to which people can go at any time for advice and information on the subject of tuberculosis and its treatment. It is also intended to open an experimental station for investigation and the production of certain curative preparations.

This method of campaigning against tuberculosis will reach the masses, especially the poor, but we must remember that we have thousands of homeless to deal with, and for these, I believe, the sanatorium is the ideal institution. However, we can not hope, through the medium of the private sanatorium, to achieve the most far-reaching results in the solving of the tuberculosis problem. We will find these institutions, like many other private sanatoria, excluding the indigent patients, accepting no hopeless cases, refusing to care for those who will become a burden to their friends and a charge upon state or county, without adequate facilities for their care. In the Cook County Hospital for Consumptives, 80 per cent. of the patients die, I am told.

The best sanatorium is the one that is under the control of the state, where the individual can be educated in the importance of hygiene, going forth as a missionary in the way of right living. The destitute may go there and receive proper treatment. The danger of infection to others may be eliminated very largely, and proper care and attention to detail may restore those patients not hopelessly diseased to lives of usefulness and activity. Let us remember that the prolongation of life by the suppression of preventable diseases is of greater value to the state than the cost of the means employed.

Dr. Ethan Allen Gray, Chicago: Prevention has always been considered more valuable than cure, and in no disease more so than in tuberculosis. In case a life is lost as the result of an accident, the state allows \$5,000 for that life. Figure each life lost through tuberculosis at that price and see what it amounts to annually. Say that the average length of life of the tuberculous individual is three years. Suppose he can work one year. That leaves him a charge for two years either of the state or his friends, and supposing he is able, on an average, to earn \$500 a year. That will give a total loss of \$1,000 for each case of tuberculosis. This does not take into consideration the physician's remuneration, nursing or any other expense or outlay. Apply these figures to the city of Chicago, where last year there were over 3,600 deaths from tuberculosis alone. That will give us \$36,000,000 in absolute loss to the community. The health authorities figure that our drainage canal has paid for itself and something like \$10,000,000 over in the saving of human lives. I think that if the health authorities can take that view, we can take the same view with reference to tuberculosis. There is something tangible to work on. A state sanatorium or a series of sanatoria for the cure of early or incipient cases of tuberculosis will more than pay for itself in the course of time. Each sanatorium becomes an educational center. The physician ought to be an educator, but the sanatorium is a much greater educator. Dr. Pettit will bear me out when I say that every patient he sends home with his tuberculosis arrested or cured becomes a disciple of open air and proper care in the treatment of tuberculosis. That is true, even of those who are not benefited.

Dr. Pettit also spoke of the early cases. I have seen very few of them. A friend, in speaking of the matter, said, that if we do find an early case and make a diagnosis long before we find the tubercle bacillus, in the prebacillary

stage, the patient will not believe us and may go to some other physician, who will tell him that there is nothing the matter with him, and the case thus becomes a late one. We get them when they are cases of mixed infection and the patient is a consumptive, not merely a tuberculous patient, but we are expected to cure him just the same. I think that if we will explain the matter of prevention to our patients we will be doing more than we are now doing in the way of a cure of the disease.

The Chicago Tuberculosis Institution expects to protect the individual and stand between him and his family and others with whom he comes in contact. If we will do that, we will do more to cut down the death rate than we can with three times the degree of effort expended in the matter of trying to bring about a cure.

Dr. George W. Webster, Chicago:—The people of the United States recently were horrified by the terrible calamity in California where so many people were killed. As a result of this the legislatures of the various states, the Congress of the United States and Associations of every kind of a benevolent and charitable character, throughout the United States, rushed to the assistance of the people of San Francisco. This represents one of the anomalies in charitable work in this country. The number of lives lost in that earthquake does not equal by one-half the annual death rate from tuberculosis in the State of California. But the people of California or any other state in the Union are not concerned particularly about the death rate from tuberculosis; in fact, they know nothing about it. There is no reason why we should grow so excited over the loss of lives from earthquakes or fires, and be absolutely indifferent to the infinitely greater loss of life from preventable diseases.

In the matter of sanatoria treatment I want to say, as an individual and as a representative of the State Board of Health, that from the time this question was first discussed up to the present moment the board of this state has stood unalterably in favor of a state sanatorium for tuberculosis. One of the reasons for this is not alone because of the value of a sanatorium as a means of cure of tuberculosis, but because of its infinitely greater worth, as an educational institution. Every state sanatorium is, above all things, an educational institution, and it also protects the people.

One of the principles underlying this matter of prevention of diseases and state authority in regard to certain dependents is not well understood. The reason why we maintain institutions at Joliet and elsewhere in the state for the temporary lodgment of criminals is not thoroughly understood. What is the purpose of these institutions? That of reforming criminals? Not at all. Why have we so many institutions for the care of the insane? Are they primarily for the purpose of treatment? Not at all. Why do we confine smallpox patients in isolation hospitals? For the purpose of treatment? Not at all. The underlying principle of it all is that the well, the sane and the non-criminal people of the state have a constitutional, inherent right to protection. In the establishment of the state sanatorium for the treatment of consumption the people of this state have an inherent, inalienable, plenary right to the protection of life, liberty and the pursuit of happiness. The sanatorium, therefore, is not only an educational institution, but it protects the well at home.

We have been told, and quite recently, by those in authority that the expense of maintaining an institution of this kind would be too great; that the expense is unjustifiable. It is not a question of the state taking care of a certain number of its tuberculous poor in a state sanatorium, but it is entirely a question of what it will cost the state to protect its citizens from preventable diseases. It is the duty of the state to at least make an attempt to protect its people. If we spend \$100,000 a year on a tuberculosis sanatorium, what does it mean? That it costs 2 cents per capita for this additional protection to 5,000,000 of people.

I was very much pleased to note that so much attention was paid to this matter of early diagnosis. It is the attitude of the State Board of Health. Some time ago I prepared a pamphlet on the early diagnosis of tuberculosis, which was sent to every physician in the state. In order that those who are not

equipped to make a laboratory diagnosis may avail themselves of this aid, the State Board of Health has established a laboratory here in Springfield, to which specimens of sputum can be sent for diagnosis at any time, free of charge.

Dr. George C. Adams, East St. Louis:—I merely wish to refer to the influence of the daily press on the public. We all know that a large majority of the people of this country receive most of their education in and knowledge of medical subjects from the newspapers. Unfortunately, our daily papers carry the advertisements of every medicine faker and quack in the country. If we could enlist the sympathies of these newspapers for the good of the public, instead of working in opposition to its welfare, it would be possible to convert nearly every home in the country into a sanatorium, when necessary, for the treatment of tuberculosis.

If such papers as Dr. Lillie's could be read in open meeting, much more good would be accomplished thereby than to read them before medical meetings only. Physicians are already familiar with all the facts, although it is a good thing to impress them on physicians every now and then. But as long as we have this army of newspapers carrying out news which is untrue regarding tuberculosis, it will be a hard fight for the profession.

Dr. George W. Webster, Chicago:—While we recognize the pernicious influence of newspaper advertising, yet we should give the devil his due. During the last year all the articles that have been prepared by the State Board of Health on these general questions touching on the prevention of tuberculosis in the State of Illinois were published by all the newspapers in the state. Thus a million and a half of copies of these articles were distributed free.

Dr. Lillie (closing the discussion):—It is very gratifying to me that my paper excited some interest. I was impelled to write it because of facts I had observed in connection with this subject. Only a few days ago, speaking of this subject with one of the physicians of my city, he asked me what the title of my paper was. When I told him he replied that he thought we were hammering away at tuberculosis too hard. I do not believe that this subject can be talked about too much. We never can say enough to educate the public properly on this subject, and the unpardonable ignorance of it I have seen among physicians is enough to appall one. There is much need for education among physicians on this subject as there is among the laity. It is astonishing how many patients have passed through the hands of two or four or more physicians without having their ailment diagnosed. It is wrong, and the fault rests only with the physicians.

I am glad that Dr. Pettit referred to the importance of early diagnosis. Early in the disease is the only time when we can expect to do our patients any good. Of course, we may accomplish something in the advanced stages, but it is preferable to get the case early. If we can disabuse the public of this one thought, that there is a cure for all forms of tuberculosis and all stages of the disease, and that it can be put on the market and sold for so much per, and that the disease is not so much amenable to drugs as it is to other methods of treatment, we will have accomplished all we can hope to do. These patients will then come to us in the incipient stages of the disease, when there is less danger to everybody.

I am glad the doctor touched on the question of sanatoria. I believe in the establishment of a public sanatorium in every county, and that some provision ought to be made in every city and hamlet for the care of the tuberculous poor. We must also learn how to treat these patients in their own homes, because some of them can not be removed to a sanatorium. These are the things that we must talk about and teach. I would like to hear an expression from the society in regard to proper legislation for the establishment of a sanatorium.

THE IMPORTANCE OF SPECIALTIES IN EDUCATIONAL CENTERS.*

JOSEPH PRICE, M.D.

PHILADELPHIA, PA.

I love my profession and its advances. I do not think the lay people fully appreciate our profession and what we are doing for them. They do not fully realize the importance of surgery and what surgery does for them; how it relieves their sufferings and saves their lives. Chicago has contributed much to scientific surgery. You possessed the first great pathologist of America—Christian Fenger, and while talking about the importance of specialties in educational centers, I desire to allude pointedly to what Chicago has done for the specialties. You have given much to surgery and to science, more than other American cities of educational importance. Christian Fenger gave an impetus to pathology that has spread all over this great country. His pupils all became lovers of pathology, many of them great teachers and important operators. Most of you do not fully realize how important Christian Fenger was to the American people. Following him, Nicholas Senn, in one decade, gave a greater impetus to surgery than the rest of the world. Unconsciously, he put hundreds of young men at work. He had the youths of the country repeating his experiments and continuing his investigations and researches in stables and laboratories the land over, and, following these great men, we have a number of men in this city who are brilliant surgeons, whose work is attracting the attention of the world. They are scientific, advanced, deep surgical thinkers; they are leaders in pathology and surgery. I have come a long way to tell you that, feeling that you do not fully appreciate what these men have done and are doing, and what you, in this city, have done for pathology and surgery.

I am very fond of the specialties. I feel the importance of them in educational centers like Chicago, Baltimore, Philadelphia, etc. The educational centers should encourage specialties. We should encourage these specialists to achieve a higher degree of scientific precision and accuracy. In the educational centers, we are really unconscious of the development of specialties. The demand for specialties always exists. Professional and lay people demand special care throughout the country. They demand special knowledge. Prolonged military service favors the development of specialties and specialists. I have noticed that a retiring military officer commonly takes up a specialty. The signal code of the American army came from a physician who worked it out. The leaders in surgery, the pastmasters in surgery gave us the specialties in the educational centers. Hunter McGuire, Sir Spencer Wells, D. Hayes Agnew, Nicholas Senn, and others, have developed and built up the specialties in the large cities. Their pupils are the specialists; it matters not whether it is the eye, the ear, the nose or throat, their pupils are the specialists. Many of their pupils adorn every department of medicine. It is vitally important that a man should serve an apprenticeship in medicine before

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taking up a specialty. Agnew, an active country practitioner, later taught anatomy successfully. Hunter McGuire was one of his pupils while a student. Agnew, following the lead of Marion Sims, repaired the accidents incident to parturition, and was the first successful gynecologist that ever lived in Philadelphia, that justly celebrated medical center. Following the lead of Sims, he repaired what was then considered incurable, namely, vesico-vaginal fistula, by the use of silver wire, and later wrote a little book on the anatomy of the female perineum. Later, he abandoned gynecology and turned it over to his pupils. He encouraged them, most of them young general surgeons, to take up the specialty. Sir Spencer Wells, returning from the Crimean War as a general surgeon, took up, perfected, and re-established the operation for the removal of cystoma. The general surgeon, therefore, has had much to do with encouraging and perfecting the specialties in educational centers. Sims perfected operations for some of the loathsome afflictions that the general surgeon had failed to relieve, and, after curing four colored women in Alabama, he created the Women's Hospital in New York, that great plastic school for the repair of accidents incident to parturition, and then made his departure for Europe. He walked the streets of Paris for a case on which to demonstrate the practicability of the operation for vesico-vaginal fistula, leaving his pupil, Emmet, to perfect and devise other procedures for the relief of accidents incident to parturition. Emmet was a good practitioner.

Many physicians throughout the country have an idea that the specialist is a one-sided man. I have never felt so. I know better, because I know many specialists, and it is exceptional to find a specialist who is narrow. Of course, we have some few throughout the country of the mushroom type, who graduate and say that they are going to make a specialty of the eye, the ear, the nose or throat, and it is those men who take a post-graduate course of about two weeks or a month, mixed with good beer and cheese, and then return, thinking they are fully qualified to adopt and practice a specialty. That is all they know about specialties. Emmet controlled the maternity work of Ward's Island as a government official for four years. He was probably at that time one of the best obstetricians in the world. He attended as many as seven or ten women a day for a period of four years. At one time, he had a larger knowledge and experience with typhoid and typhus on Ward's Island than most American practitioners. So the internists must not criticize men like Emmet.

Sir Spencer Wells was a good general surgeon. McGuire and his pupils, at one time, did about all the good gynecology that was done in the South, particularly in Virginia and North Carolina. Later, he turned all of that work over to a younger school of well-trained surgeons, men who had served a good apprenticeship in surgery, and they all did scientific gynecological work. So I repeat: The good gynecologists and specialists of this country came from general surgeons.

For a long while I practiced general surgery, and much of my material came from Agnew. The splendid development of gynecology as a spe-

cialty is beautifully illustrated by comparing it with the advance of other specialties. It is really the only specialty in this country that has more than one special society.

A number of Americans have made trips, at great expenditure of time and money, for the purpose of reading papers before local, county and state societies to advance these specialties. They have made the specialists. The specialists who give up a good general practice, who give up a good obstetrical practice, to follow a specialty in an educational center should be encouraged and rewarded.

There is a tendency at present throughout this country to build more hospitals, and I predict that where we have four or more good physicians in towns of 2,000 or more inhabitants we are going to have a hospital and ought to have one. The material in these small cities, thickly settled, in manufacturing communities, is very abundant, and it is thrice important that we should have, at these points, well-trained men, disciplined men, who have served an apprenticeship in the educational centers, and who can do good surgical work. At present, much of the work done in a surgical way in these places is unfortunate. The mortality in the country from operations done by inexperienced men, men without much judgment, is great. The results are bad. There is but one way to correct it, and that is to compel these men to serve an apprenticeship in the educational centers. You have here in Chicago some of the most important and brilliant surgeons in the world; they are doing advanced, scientific work. They are doing ideal work, but they are not doing the teaching they should. They should be paid salaries and compelled to teach. The residents in hospitals should be doubled and quadrupled, and every hospital in the land should be made a school. Public charities should be used wisely and mainly for educational purposes.

Tait distributed all over the world good operators simply by giving them object lessons. He demonstrated beautifully that if he could make simple object-lessons he could make better operators by giving them an apprenticeship. I was one of his object-lesson pupils, as well as many others, and all of us, I think, have demonstrated the value of this by putting our pupils under us to work, making them serve apprenticeships and thus making them better operators than Mr. Tait made. The advanced thinkers and leaders in the profession—men like Mayo, Ochsner, Deaver and Murphy—are not apprenticing young men as they should. While they are doing the advanced thinking, teaching and operating theoretically, they are not making men to do the practical work they should do. Their influence is powerful. The impress of teachers is peculiar. Some men can put others to work theoretically, while others cannot. Gross and Pancoast, theoretically, could make surgeons; Agnew and Leidy could make surgeons; Murphy can make surgeons.

He rarely opens his mouth that he does not do something towards making surgeons, especially before state and national societies. If he did not, they would not solicit his valuable contributions and discussions. Such societies appreciate and highly value his work. It is impossible for men like Gross and Pancoast to teach surgery without making surgeons.

The same may be said of Leidy and Agnew. I am very proud indeed of what Chicago is doing for medicine and for surgery. I am very proud of what the American profession has done for surgery. About all of the advances in my specialty, gynecology and abdominal surgery have been made in America. Abdominal surgery belongs to America. The operation for ectopic pregnancy was practiced in 1799 successfully by a Virginian—Baynham. In 1809, Ephraim McDowell gave us ovariectomy. A number of Americans did the operation before. John Clay, in 1843, did the operation in England. Brain surgery had its origin in America. Vaginal hysterectomy was done successfully nearly two hundred years ago, and we have continued to do it successfully. It is one of the easy operations. We do it before breakfast and after breakfast, without mortality. And so I have great pleasure in alluding to what America has done for surgery. But I feel that surgery here, as elsewhere, is in its infancy. Its possibilities are great, and I want the educational centers to take more interest in the youth. The future belongs to the youth of the country. The chloroform rag has been prescribed, and that simply means that the lay people and professional people who are advanced in years appreciate the fact, that it is the young men of the age who are to do things. In our navy, at present, the average age of the men behind the guns is less than 22, and they have reached almost a maximum efficiency in marksmanship. For instance, running at a speed of ten knots an hour they hit a target ten times in less than three minutes. That means that the Japanese or the Spanish navy would disappear in less than a minute. That has been accomplished by the truant boys of the country, not by the flower of the youth of America.

I know, from experience and observation, that the great teachers of this country are wasting material and are not doing the teaching and imparting the knowledge that they should; nor are they putting as many young men to work as they should. We are going to have hospitals at every cross road where there are 2,000 or more inhabitants; we are going to have a polyclinic. The polyclinics of New York and Chicago will cease to exist except for those cities. At the cross roads they are going to have their own polyclinics, so that it is important that we should educate and send a better class of men to the villages and to the cross roads, men who have served an apprenticeship. I have sent them to such places in good numbers. I have repeatedly sent a hundred men to their different homes who have written me a hundred letters telling me that the first one hundred patients upon whom they operated recovered. One hundred men, one hundred primary operations, and one hundred recoveries. Think of it!

Chicago has contributed so much to scientific medicine, so much to pathology and surgery, that you are attracting at present the attention of the world. You are talked about as scientific physicians and surgeons and as teachers, and I entreat you to go on with your important work.

A CASE OF LEPROSY.*

DR. E. A. FISCHKIN AND DR. E. C. SEUFERT,
CHICAGO.

The patient, a fruit peddler by occupation, is a native of Russia. He comes from the Baltic provinces, near Riga, from a district where leprosy is endemic. He is 26 years of age and has been in the United States 12 years, having lived in Chicago all this time. His illness dates from April, 1905, up to which time he was healthy and never had any skin diseases. If we believe his statements, he must show an incubation period of at least 11 years. This period is not extraordinary in leprosy. Cases are on record with an incubation period of 20 and even 40 years.

Family History.—There is no history of any hereditary taint in our patient. His father died at the age of 55, from some acute disease which had lasted only three weeks. His mother is now 61 years old and is healthy. Three brothers and one sister are in good health.

Personal History.—When we read the reports and discussions of the American Medical Association on leprosy cases, we are surprised to find the almost general statement that it is hard to get a true history from a leper. They all try to mislead and to deceive you for the purpose of inducing you to make a wrong diagnosis, and as soon as you find out the true character of their disease, they leave you and go to somebody else who is ignorant about the condition and whom they can again tell their stories. It was so with my patient. He was seen and treated by Drs. Hyde, Montgomery and Ormsby and by Dr. Zeissler and Pardee, but when he came to me last August he told me I was the first dermatologist he had appealed to. He tried to mislead me into a diagnosis of syphilis. His first complaints were about some lesions on the penis. He gave a history of a sexual exposure in March, 1905, from which he contracted gonorrhea and, simultaneously, some spots appeared on the leg from which the present disease has developed. Previous to that time he was always well. When a boy, he attended the public schools of his native town. On questioning, he admitted having had some itching eruption on the arms and legs at the age of 14, just before coming to America. It had lasted some three or four months and, while on boat, it had entirely disappeared and he had been perfectly well up to a year ago. He denied having experienced any prodromal symptoms before the outbreak of the eruption, and admitted only a feeling of debility and quite troublesome itching, which is a characteristic sign of the invasive period.

Status Præsens.—Examination of the internal organs did not reveal any abnormal conditions. The patient, when he first came to me, looked very anemic, his pulse was weak, but there were no abnormal conditions of the heart and no murmurs. The spleen and liver were not enlarged. No adenopathy. A blood examination showed hemoglobin, 95 per cent.; 5,200,000 reds to 10,000 whites. A differential count showed normal conditions. There were no plaques or ulcerations in the mouth and the

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patient did not show any visible signs of rhinitis and apparently no excessive nasal or buccal secretions. The skin over the extremities, even in parts free from eruptions, was sallow, thin and, in many places, looked like a senile skin and showed a very weak resistance. An adhesive plaster strip, which was fastened around the arm to hold a bandage after excision of a nodule for microscopic examination, produced a deep excoriation, which took a long time to heal. The eruption was mainly tubercular in character and covered most of the unexposed parts of his body. The face was almost free of leprous manifestations. He could pass and is passing in the crowd unnoticed. But if you pay closer attention, you discover characteristic signs of leprosy. There is a circumscribed, infiltrated area about 1 by 2 c. m. on his forehead, elevated about 1/16 of an inch above the surface of the skin, of a light yellowish



Figure 1.

brown color and of moderate consistency. On looking closer, we discover a most characteristic sign of leprosy, the thickened overhanging eye brows, due to subdermal infiltration of the lateral half, which, however, feels soft on touch and which gives to the countenance a peculiar morose appearance and is in this case only a suggestion of what is termed the leonine face. You notice the alopecia on this part of the brows. The patient himself is aware of the condition and has noticed that his eyes are deeper set now than they were before.

On the back of the neck there was a rather macular eruption, consisting of brownish, slightly elevated plaques with indistinct margins and of which the patient complained that they were very itching. The regions most affected are the extremities, the extensor surfaces of the arms and the outside of the thighs. The arms were dotted with tuber-

cles the size of a lentil to half a cherry. Most of them are rounded, of soft consistence and a dark, coppery brown color. The larger ones are covered with slightly exfoliating thin scales. A few of the largest were deeply furrowed and looked almost lobulated. The smaller ones are flat, look almost like syphilitic papules, but less hemispherical, very smooth



Figure 2.

and shiny on the surface, and showed a deep varnished or glazed color as if they were covered with oil. On the flexor surface, there were less tubercular (except on the wrist) and more diffuse infiltrations in regions of the elbow, of the characteristic brown color with deep lines and furrows looking almost like a lichen ruber rugosus. You see here such a plaque

winding around to the flexor surface. You see also the shriveled senile atrophic condition of the healthy skin.

The lower extremities are affected in like manner, though localized more on the upper than on the lower leg. You see also a few tubercles on the glans and the corona penis, a fact which is not very frequent,



Figure 3.

which makes most authorities say that tubercles never occur on the glans. On the upper parts of the legs, there were streaks of gyrated bands of infiltration running over the *cristæ osis ilei* to the back.

During the treatment, I should say about two weeks after the patient came under my observation, there appeared a pemphigoid eruption, bullae

and vesicles the size of a pea to half a cherry, containing a clear serum. They appeared suddenly, without any sensory symptoms, lasting a few days, after which they ruptured spontaneously, leaving superficial ex-coriations which healed without trouble. At the same time there appeared

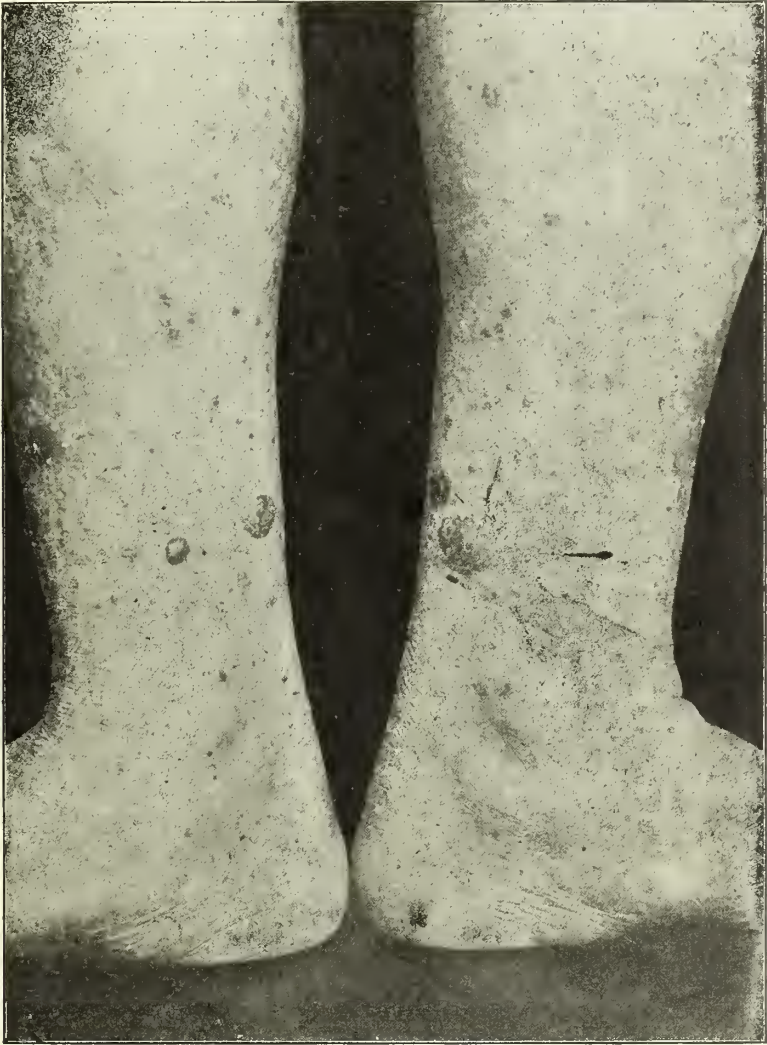


Figure 4.

over the ankles on the anterior surface diffuse brown infiltrations, which, on touch, could be felt consisting of subdermal nodules.

The nates were covered with groups of characteristic tubercles. Above them, in the lumbar region, were large circinar infiltrations, connected by somewhat irregular gyrate streaks and running out over the *cristæ ois ilei* to the anterior parts.

The abdomen was for a long time free from manifestations, showing only a group of small tubercles near the umbilicus. But towards the end of the patient's stay under my treatment, there appeared suddenly a number of large brown somewhat raised diffused areas of erythema leprosum or leprous roseola, which looked somewhat like a syphilitic



Figure 5.

roseola, the spots only being much larger, 2 or 3 inches in diameter, more mahogany brown in color and infiltrated. Examination of the thermal and pain sensation revealed distinct circumscribed spots of analgesia on the ulnar side of the left arm and on the outside of the lower leg. Sensation of heat and cold seemed to be normal. We must therefore diag-

nose this case as one of *lepra tuberosa*, which is beginning to exhibit mild features of the anaesthetic form.

Diagnosis.—The diseases which here come under consideration for differential diagnosis are the infectious granulomata, viz., syphilis and tuberculosis of the skin, especially lupus. The syphilitic tubercles are much smaller in size, have not the glazed, oily, yellow-brown color, are more limited in number and tend to occur in segmental crescentic groups. They are also less stationary and, in course of time, ulcerate or become absorbed. They are never accompanied by erythematous infiltration as we have seen here.

The tubercles of lupus are not universal, are mostly confined to the face, are much smaller, more soft and have the characteristic apple-jelly color. Moreover, they are of slower development and frequently spread from one center, leaving characteristic scars. There is only one disease with which this case could be confounded, viz., granuloma or mycosis fungoides in its atypical form, the so-called *mycosis fungoides d'emblee*, and, for some time, I was not certain about the differential diagnosis, which can be ascertained only by the microscope. For this purpose I excised a tubercle and gave it for microscopical examination to Dr. Seufert, who has found the bacillus of leprosy and who will report to you on his findings.

Treatment.—Owing to the fact that the treatment of leprosy consists mainly of hygienic measures, which I could not employ on this poor fruit peddler, and, having in view the indorsement of *x-ray* treatment, which was made by Lassar in Berlin, Neisser in Breslau, Wilkinson in Manila and others, I have put him on a quite vigorous *x-ray* treatment. He had daily exposures by which each part was treated twice a week, but I can not say that I have seen any beneficial action, though the treatment was carried on until the skin showed a fairly strong reaction. Some tubercles, especially on the wrist, seemed to shrivel and disappear but others came and, on the whole, there was little improvement. At any rate, the *x-rays*, notwithstanding their visible action on the skin, did not suppress or retard the onset of new eruptive symptoms as manifested by the pemphigoid and erythematous eruption which appeared under my observation. Besides the *x-rays*, I gave him general tonics like iron and strychnia, chaulmoogra oil and a pyrogallie acid ointment. But the time which the patient stayed under my treatment was too short to speak of any noticeable effect of the treatment. I have now lost track of him. He promised me somewhat reluctantly to come here for demonstration two weeks ago, but when the hour came he did not appear and has never come back since.

The Significance of This Case.—Leprosy in Chicago is no more a rarity. Almost every dermatologist of this city has seen exhibited or published cases of leprosy. We have read, in this week's number of the *Journal of the American Medical Association*, that there were 278 lepers in the United States in 1902, and there must be about 300 by this time, an amount sufficient to cause apprehension. If we take to heart the warning of Dr. Bergman of Riga, who says that in that city leprosy was

unknown 30 years ago and that it has now a colony of lepers and the necessity to keep up a leprosarium, we must admit that the presence of lepers among us constitutes a grave danger. Especially dangerous are the tubercular lepers, who carry myriads of bacilli in their skin and mucous membranes. Patients like the one we have seen, patients who do not exhibit the stamp of leprosy on their face, patients who look comparatively well and who, by their poverty, are compelled to live in narrow, filthy surroundings and to mingle with large numbers of equally poor people, are the most dangerous. But what shall be done with them? This problem, which is as old as history, is still awaiting its solution. Dr. Pusey will deal with this social problem. But besides the social embarrassment the leper places perplexing problems to the physician to whom he applies. What shall the physician do with him? Has he a right to treat him and expose his other patients to danger without warning them? Has he a right to report him to the proper authorities without betraying the patient who appeals to him for medical help and help only? And what can the authorities do with him? They will carry out the command of the old Bible to "cast out the leper," but they have no place to keep him, and what they will do and what they were doing is to chase the unfortunate from town to town and from state to state until deplorable events occur, such as have taken place a few weeks ago in West Virginia. More than in any other case, the physician is confronted here with grave problems portent with danger and weighing heavily upon his conscience.

Pathological Examination.—(By Dr. Seufert.) Since the communications of Hansen and Neisser, in 1880, no doubt remains that leprosy is of bacterial origin. It may be placed in the same category as tuberculosis and syphilis, because they all three produce connective tissue nodules. The bacillus gains entrance into the body, in the great majority of cases, through the mucous membrane of the nose; in fact, Sticker claims that this is the portal of entrance in all cases. The bacillus is a non-motile, slender organism from 4 to 6 micromillimeters long and in breadth from $\frac{1}{8}$ to $\frac{1}{15}$ the diameter of a red blood corpuscle. It is slightly shorter than the tubercle bacillus, which it otherwise closely resembles. The ends are frequently pointed and it is sometimes thickened in the center. Spores have not been found. The bacillus is found in enormous numbers in the nodules which occur on the skin, mucous membranes and in the internal organs. Many have a beaded appearance; these have been interpreted by Babes as degenerating forms, by Impey as artefacts produced by staining. I am inclined to believe from a careful study of our sections, that Babes is right. Around isolated bacilli, we find a clear homogeneous area which is the result of the secretion of a mucoid material by the organism. This can best be observed when the bacilli are grouped together in masses so that larger quantities are produced.

The leprosy bacillus, like the tubercle bacillus, belongs to the acid-fast group. It takes the stain more readily than the latter, but also gives it up more readily. It stains well by Gram's method. The ordinary

Ziehl-Neelsen method is a very suitable one for quick and accurate results, the bacilli are colored red and the cell nuclei blue; the masses of red-stained bacilli can even be seen with the low power of the microscope.

Many endeavors have been made to cultivate this bacillus upon artificially prepared media, but, in spite of modern methods, improved apparatus, and refined media, few claim to have met with success. Perhaps the work of Carasquilla along this line ought to be mentioned; he took a drop of serous fluid from a lepra nodule and transferred it to coagulated human blood serum. After 24 hours incubation in an oven, the first colonies appeared as white or yellow spots of an irregular, round form. On microscopic examination, the bacillus appeared in two forms, in long, thin rods with a clear center, and as short, thick, almost elliptical rods, which become surrounded by a membrane and eventually become flagellated. He identifies them as the lepra bacilli on account of their acid-fast properties, their tinctorial and morphological properties, also on account of the reaction produced by an injection of filtered culture into horses.

Attempts to inoculate leprosy into the lower animals have so far proved unsuccessful. If a piece of leprous tissue be introduced subcutaneously in an animal, such as the rabbit, a certain amount of induration may take place around it, and the bacilli may be found unchanged in appearance weeks or even months afterwards, but no multiplication of the organism occurs.

There are two chief forms of leprosy. The one, usually known as the nodular or tubercular, is characterized by the growth of granulation tissue in a nodular form or as a diffuse infiltration in the skin, in the mucous membranes, in the internal organs, etc., great disfigurement often resulting. In the other form, the anesthetic, the outstanding changes are in the nerves, with consequent anesthesia, paralysis of muscles, and trophic disturbances.

As the case under observation is one of nodular leprosy I will consider only the changes observed in this type of disease. To the naked eye, the lepra nodules present, upon section, a grayish or yellowish, semi-transparent, uniform appearance, similar to other inflammatory formations. They are not as clearly defined as in tuberculosis or syphilis, but are always better supplied with blood and, consequently, less apt to undergo coagulation necrosis. There is no caseation of the leprous nodules and the ulcerations depend more upon traumatic injuries and secondary infection than upon retrogressive changes.

The first appearance of the nodes is frequently preceded by the occurrence of hyperemic spots, which disappear, leaving behind them pigmented areas, which begin to enlarge until a walnut-sized node is formed. The nodes may remain isolated or may become confluent. They consist of granulation tissue, which raises the epidermis up and extends into the subcutis below. This tissue is in abundance around the hair follicles. It is composed of masses of large, spindle-shaped and

stellate fibroblasts or epithelioid cells. The epidermis covering the leproma or nodule is reduced to three or four layers of cells. Some authorities say that the unbroken epidermis does not harbor the bacillus, but our sections show that they can occasionally be found in this structure, having probably been carried there by the leucocytes. The papillæ of the cutis are obliterated and replaced by fibroblastic tissue.

Each nodule has the following characteristic structures: 1, Virchow's lepra cells; 2, formations called globi by Neisser; 3, giant cells. The so-called "lepra cells" of Virchow are large vacuolated cells containing large numbers of bacilli and nuclei of endothelial cells. These cells are now considered thrombosed lymph vessels that are filled with



Fig. 6.—Stained with hematoxylin and eosin. Low power drawing of part of a nodule showing the reduction of the layers of the epidermis to a few cells. The papillary layer of the cutis is obliterated. The nodule is not well defined, and its stroma is composed of fibroblasts. Blood vessels are seen in several places.

bacilli and proliferating endothelial cells. The large formations known as globi are composed of many nuclei in various stages of degeneration, cell detritus, masses of dead and living bacteria, surrounded by their mucoid or slimy secretion. The giant cells are imperfectly formed and contain vacuoles. Dohi looks upon these as thrombosed lymph vessels.

We have not been able to demonstrate the bacilli within the blood vessels of our sections but they have been observed by us within the walls of the vessels, causing a periarteritis. There is no doubt that the bacilli almost exclusively travel by the lymphatics. They occur not only in the

lepra cells and globi but also within and around the individual epithelioid cells of the granulation tissue. They are not found in the plasma and mast cells, but are occasionally seen in the leucocytes within the nodule.

An examination of the blood showed the following: Hemoglobin (Gower's), 95 per cent.; red cells, 5,200,000; leucocytes, 10,000.

These figures correspond closely with those of other investigators. All agree that the blood is not affected until late in the disease. A

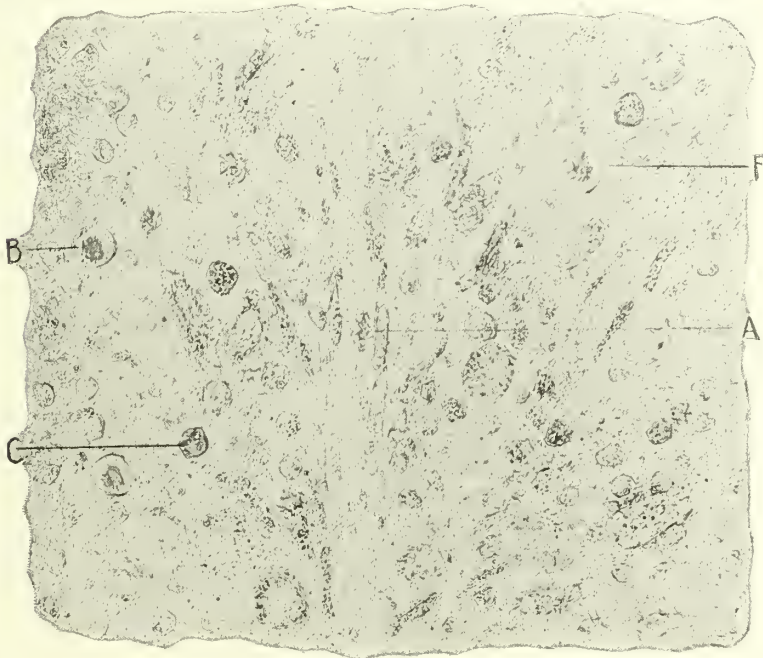


Fig. 7.—Section stained with Ziehl-Neelsen's carbol-fuchsin and methylene blue, 1/12 oil immersion. Drawing of part of a nodule showing in the middle a lymph vessel containing a mass of lepra bacilli (a), the endothelial walls of the vessel are proliferating. The bacilli are seen throughout the section in large numbers, both within and outside the epithelioid cells. Here and there may be seen the so-called "lepra cells" (b), consisting of masses of bacteria within thrombosed lymph vessels. The bacilli are stained red and the nuclei of all cells blue. A few mast-cells are also seen scattered throughout the section (c).

differential count of the leucocytes was as follows: Mononuclears, 23 per cent.; transitionals, 8 per cent.; polymorphonuclears, 69 per cent.

A differential count of the granulocytes gave the following results: Eosinophiles, 10 per cent.; neutrophiles, 90 per cent.; basophiles, 2/10 per cent. No nucleated red cells were found, but a few poikilocytes were occasionally seen, a few malarial parasites of the estivoautumnal type were also present. A very diligent but unsuccessful search was made for the bacillus in the blood. Those who have studied the blood in this disease say that it is only found in the most advanced cases.

THE PREVALENCE OF LEPROSY IN THE UNITED STATES
AND THE POLICY TO BE PURSUED WITH
REGARD TO IT.*

WM. ALLEN PUSEY, M.D.

CHICAGO.

It may be said, broadly, that leprosy is endemic throughout the tropical and subtropical world and in all countries in which civilization has not reached the highest standards of cleanliness. Although it was universal in Europe in the middle ages, it is not now found in the heart of western Europe. It still exists in Spain and Portugal, Greece, Turkey, the Mediterranean islands, Iceland, Lapland, Scandinavia and the Russian shores of the Baltic. It is found practically throughout Asia and Africa and their adjacent islands, and it has been spread among the islands of the Pacific by the Chinese and Japanese. It is common throughout the West Indies, Mexico and Central and South America. It thus exists in many countries which furnish emigrants to the United States, and it is not surprising, therefore, that an occasional leper is found among us.

The prevalence of leprosy in North America, north of Mexico, is limited to a few foci. There has been a focus of leprosy at Tracadie, New Brunswick, for nearly a hundred years. According to Dr. A. C. Smith, of Tracadie, leprosy in that district can be definitely traced to one case introduced from Normandy in 1815. Numerous cases have developed subsequently in that district, and there is a lazaretto there containing twenty-six beds, but, as a result of partial segregation and the improved condition of the people (these are the facts to which the improvement is attributed by Smith) few of the beds are now occupied, and leprosy is diminishing in that district. Formerly there were a number of lepers at Cape Breton, Nova Scotia, but the disease no longer prevails there. There are a few cases in Manitoba among the Icelandic and Scandinavian settlers and also among the same nationalities in Minnesota. An occasional case in a Scandinavian or other northern European is found in other northwestern states. In 1900, according to Bracken, eleven cases of leprosy were known in Minnesota and, in 1903, no new cases had been reported. On the Pacific coast, both of the United States and Canada, there have been numerous lepers among the Chinese. Douglas Montgomery has reported to Dyer a list of thirty-three cases which, in Montgomery's words, does not by any means include all of the lepers in San Francisco. Montgomery has seen two lepers develop in Caucasians from contact with California lepers. One of them was a white man who lived in contact for a long time with Chinese and developed leprosy either in California or Nevada. The other was a woman, by occupation a laundress, in whose house in San Francisco a leper of the tubercular type from Hawaii had made his home. Several cases of leprosy in Chinese, presumably contracted in this country, have been seen.

The chief foci of leprosy in the United States are in Louisiana and in Key West. The Louisiana leprosy has been attributed to French Cana-

* Read before the Chicago Medical Society, Nov. 7, 1906.

dians deported from Nova Scotia, but, as leprosy has been recorded in Louisiana since the early part of the eighteenth century and was not known in the St. Lawrence region before 1810, that explanation is, of course, impossible. There is practically no doubt that leprosy has developed in Louisiana from intercourse with Spanish-American countries. The number of lepers in Louisiana is large. According to Dyer's report in 1904, over fifty cases had been admitted into the Louisiana lazaretto, and he states that cases are now found in almost every parish of the southern half of Louisiana and in many parishes of the northern half. In Key West cases are not uncommon, but their number is uncertain and, on account of easy intercourse with Cuba, probably very variable. Louisiana is the one district in the United States in which the disease is endemic and has definitely increased. It may be added that it is the one district in the United States which seems to be dangerous to persons of the better class. I, as well as others, have seen cases originating in Louisiana in people who lived under the best hygienic conditions. It is not an unusual occurrence for a leper to be discovered in any part of this country in a Chinaman or some other immigrant from a country where leprosy is endemic. Taking all cases into consideration, Dyer estimates that there are in the United States probably five hundred cases of leprosy.

The method of communication of leprosy has always been a matter of discussion. Previous to the announcement, by Hansen, of the discovery of the *lepra bacillus*, the question even of the contagiousness of leprosy was in doubt. Every possible influence has been invoked to account for its occurrence. The fish theory of Mr. Jonathan Hutchinson, of London, has been one of the most plausible theories, and Hutchinson, with unexampled industry, has recently investigated this theory in all parts of the world and given his deductions in a book. He has not demonstrated that leprosy is produced by eating fish, but he has, at least, shown that practically all the world eats fish.

The *lepra bacillus*, discovered by Hansen in 1871 and announced in 1874, is now universally admitted as the specific organism of the disease, although this organism has not been successfully cultivated outside of the human body, so that the complete cycle of proof of its pathogenic character is lacking. Accepting the fact that leprosy is due to Hansen's bacillus, the disease must be transmitted by infection, either direct or indirect. There are many clinical illustrations that confirm this assumption. It must be said, however, immediately, that, even in endemic localities, the activity of the contagion is not great and that all of the conditions necessary for the spread of the disease are not understood. There are innumerable instances of families living together for years, in intimate contact with lepers, without any spread of the disease. Wives or husbands with leprosy partners may escape the disease; some children in leprosy families may develop it and others escape; so that it must be assumed that personal susceptibility is an important factor in the spread of the disease. Two other factors are also well established. One is that the disease is much more liable to be contracted in a warm climate than in a cold, and the other is that uncleanly habits of living greatly predispose to the spread of

the disease. Cleanliness, however, is not sufficient to render one immune from leprosy, in case he lives in a leprosy locality in a hot climate. Illustrations of this fact are occasionally seen in lepers of the upper class returning from residences in subtropical or tropical countries.

It is excessively rare for leprosy to be contracted in the United States, except in its most southern portion. A few indigenous cases have been reported, which were presumably contracted in the middle West, but they came from leprosy families of the lower class. Such cases have been reported by Burnside Foster and by Ormsby. But the entire number of indigenous cases, which have been reported either in California or the Middle West—the only parts of the United States outside of the extreme South where any cases have originated—does not amount to half a dozen.

According to Hutchinson, no case of indigenous leprosy has been seen in England. According to Hallopeau and Besnier, this also is true in Paris. According to Bronson, the same is true in New York, and it is true, I believe, in Chicago. Hansen, who several years ago examined the lepers in the Minnesota district, found that the disease was dying out there, in spite of the fact that no restrictions were imposed upon the patient. Leprosy is diminishing or has disappeared in the foci on the Gulf of the St. Lawrence, and no case has ever developed among the nuns or physicians who have cared for the patients in Nova Scotia and New Brunswick. It is the usual custom in all of the larger cities of the temperate zone, like London, Paris, Berlin, Hamburg and New York, to care for lepers in general hospitals, and that fact is the most striking evidence of the lack of fear of contagion among experts, if ordinary precautions are taken.

Even in leprosy localities, the spread of the disease among those who live in civilized circumstances is extremely uncommon. According to Thompson, leprosy is on the decrease in Australia, although lepers are not restrained; and, according to Lutz, contagion, even by intimate and prolonged contact, is uncommon in families living under good hygienic condition in South America or the Sandwich Islands. Zambaco Pasha, who has had a large experience in the observation of leprosy in Turkey, has never seen a case originating from contagion. In Japan, where there are great numbers of lepers and where they have always been allowed their freedom, the disease is believed to be decreasing under improved conditions of living of the masses.

Taking all facts into consideration, I believe we may assume that there is practically no danger from the presence of a sporadic leper in any part of the United States. Such precautions as are practicable should be taken in the care of these patients, but the danger of the spread from such patients is so infinitesimal that there is no ground for the excitement which is always aroused by the discovery of a leper. Where leprosy patients exist in numbers, the situation is different and segregation should be carried out to as great an extent as is compatible with humane treatment. However, while we are resting quietly among the terrible risks which we are constantly exposed to from tuberculosis and typhoid fever and other infectious diseases, there is no logical defense for making lepers

the vicarious victims of our fear of the contagious diseases which we can not conveniently control and consigning them to the cruel isolation which popular clamor demands for them. They are practically not dangerous here at all.

In districts like Louisiana, where leprosy is active, every effort should be made to segregate the leper as completely as possible; to that end, public asylums of refuge for them should be provided, as has been done in Louisiana. These should be made as agreeable places of residence for the sufferers as possible, if for no other reason in order that lepers may willingly accept these asylums. This does not demand a very high standard of comfort, for the outside world is not a very cheerful place of residence for a leper in an advanced stage of the disease. Such treatment as is commonly accorded lepers is a reflection on common intelligence, to say nothing of humanity. If, for example, the reports are true which I have seen describing the lazaretto, or rather prison for lepers in San Francisco, the place is a disgrace to California. We are all familiar with the wretched exhibition of fear shown in the recent case of the Servian leper, who was shunted about and left to die uncared for, when he might have been taken care of with perfect safety upon any almshouse farm.

Whether anything more should be done than to provide a place of asylum for lepers depends, in my opinion, upon the district. In Louisiana it is highly desirable to segregate the lepers. In Minnesota, where the population is vigorous, where living conditions are good, and where the climate is favorable, nothing more is necessary than to keep the patients under reasonable surveillance and see that they do not live in squalor and dirt in close contact with other persons. But even in such a district, public help should be extended to the victim as fully as possible, and a place of refuge furnished them when they will accept it.

What shall be done with the sporadic leper that occasionally appears in any of the non-leprous districts of the United States? He should be treated like any other patient suffering from an infectious disease of very slow course and of the lowest degree of contagiousness. There is no reason why he should not be admitted into a general hospital or treated outside, provided the same precautions are taken that should be carried out with tuberculosis.

LUMBAR LORDOSIS.*

WITH REPORT OF CASE.

M. S. MARCY, M.D.

PEORIA.

Lordosis, as is well known, is the name of a condition in which the vertebra projects forward or a curvature of the vertebra anteriorly. Lordosis is far less common than kyphosis, which is a disease of the vertebra. Kyphosis, or a posterior curvature of the vertebra, may occur from rachitis, spondylitis deformans, osteitis deformans, Pott's disease and

*Read before the Section on Medicine, Illinois State Medical Society, at Springfield, May 15-17, 1906.

affections of a similar nature. It is the characteristic attitude in infancy and old age. Kyphosis of rachitis is most marked in lower region of the vertebra. Spondylitis deformities may involve the entire spine, but the simple posterior curvatures are most marked in the upper dorsal region. "In a number of the posterial deformities the increase in the dorsal kyphosis is balanced by an increased lordosis, and in this form there is simply an exaggeration of the normal curves of the spine, the hollow back." Lordosis is usually secondary to disease or deformity of the spine or of the adjoining members. It may be induced by flexion or contraction of the thighs, and is often a symptom of congenital displacement of the hips. It may be the result of certain forms of nervous diseases and muscular weakness.

The condition of nervous exhaustion followed by muscular weakness as a cause of lordosis is the one of which we wish to call especial attention in connection with the case reported in this paper. It is not necessary to go into minute details in reference to the anatomy of the parts involved in lumbar lordosis, but, if you will pardon me, I desire to refresh your memory as to the muscles and nerves involved when lordosis occurs. Owing to the fact that Nature has provided seven layers of muscles for the back, pulling in different directions and subject, normally, to the will of the individual, it would seem almost impossible that curvatures could occur.

On the other hand, when we remember the great number of children who inherit weakened constitutions and are improperly fed and clothed throughout their early life, it is surprising that we do not meet more deformities of the spine.

Beneath the serrati postici are arranged the muscles of the back proper, lying, for the most part, in the groove of either side of the spine of the vertebra. According to their direction, they are called vertical and transverse.

The erector spinæ muscles, whose office is extension on the pelvis, form the pair of muscles in which we are most interested at the present moment. The erector spinæ is a broad and very strong membranous sheet of a triangular shape, dividing, in the lumbar region, into three longitudinal series of muscles, which fill the greater part of the vertebral groove. It has its origin in the spine of the last two thoracic, all the lumbar and the four upper sacral vertebræ. It is continuous with the dorsi and ilio-costalis and breaks into fibers in a line obliquely upward and inward from the front of its iliac origin to the last thoracic spines. Its nerve supply is received from the external branches of the posterior division of the lumbar nerves. The psoas magnus is another pair of muscles that plays an important part in the condition known as lordosis. It has its origin by five processes which arise from the sides of the intervertebral cartilages which intervene between the bodies of the last thoracic and the five lumbar vertebræ and the adjacent part of the sides of the bodies of the vertebræ and between these processes form tendinous arches which bridge over the sides of the bodies of the first four lumbar vertebræ. The insertion is at the lower and back part of the lesser trochanter of the

femur. This powerful muscle, whose duty it is to act as a flexor of the thigh on the pelvis, passes downward and forward, passing over the brim of the pelvis. At Poupart's ligament it changes its course downward and backward to its attachment to the lesser trochanter of the femur. In its passage along the brim of the pelvis and over the lower part of the iliac fossa, the tendon, in its outer aspect, receives the insertion of the iliac muscle. They unite their strength and pass to the same destination and insertion. The sartorius, pectineus, abductor longus, abductor brevis, abductor magnus, gracilis and obturator externus, all having their origin on the pelvis and their insertion on the femur or upper and inner surface of tibia, and whose office it is to flex the thigh on the pelvis and to rotate the thigh, receive their nerve supply from the lumbar and the obturator nerves, which come from the second, third and fourth lumbar region.

Regarding the cause of lordosis, it can be readily understood, from the statements above, that the lumbar region is well supplied with nerves and hence is a very sensitive part of the spinal column. Should the lumbar plexus of nerves become irritated and oversensitive and coördination be lost between the muscles, the psoas magnus, from its superior strength, would outpull the spini recti and gradually produce this condition known as lordosis. The following case was to me a very interesting one.

The patient was a young lady, aged 23 years. I have been the family physician for a number of years, but have never known her to be confined to the bed with sickness until this attack. She began to complain, about one year previous to the termination of the disease, of severe pain in the back and sides, with no relief from lying down, pains always worse at night. Her occupation was that of a shirt maker, working early and late, sitting in a bent position. The pain became so severe in the lumbar region that she would frequently sit up straight and bend the lumbar vertebra forward for relief. Finally she was compelled to give up her work, and, while confined to her room, she stated that she felt better sitting up than lying down. After being under my care for about a month, she visited her aunt, where she remained for two months, during which time I did not see her. When she returned she could scarcely walk owing to partial paralysis, with loss of sensation of the lower limbs. In a very short time both limbs were entirely paralyzed. She was then sent to the hospital, where extension was made and a plaster of Paris jacket applied. This gave her some relief and was worn for about eight weeks, but with no improvement of the paralysis. The plaster jacket being worn out and broken was removed and she objected to having it reapplied. She was then taken to Chicago to Mercy Hospital and placed under the care of Dr. Mix. After a very thorough examination, he thought proper to apply extension of ten pounds of weight to each limb. This gave her some relief for a part of the time, but it was necessary to remove the weights for one or two hours during the day. Extension was continued for the next three months, when sensation in the feet began to be faintly perceptible. During this time the patient had but little control of bladder or bowels, and still complained of pain in lumbar region. Lordosis continued in a marked degree, notwithstanding the extension. Extension was continued

and the feet and limbs gradually became more sensitive until in about three months she could raise her feet and limbs clear from the bed and move them from side to side. As soon as sensation began to return the muscles of the thigh began to contract and flex the limbs inward and on pelvis. Spasmodic contraction was at times very severe, causing great pain. The muscles of the abdomen also contracted spasmodically, especially after eating, frequently causing the patient to vomit. The question now arose whether it was better to continue extension and try to overcome the contraction of the muscles by tiring them out and submit the patient to excruciating pain and exhaustion from the extension or to leave off extension and allow the limbs to contract. The young lady having a high appreciation of her own condition and having a strong desire to recover, the matter of extension was left entirely to her. She would bear the extension heroically for several hours, then ask to have it removed for an hour or two, and then ask to have it reapplied. She said it gave her great relief to have it removed for a time and then relief to have it reapplied. This course was continued for the next three months, when we found that she was failing beyond a hope of recovery. Then the extension was removed and not again applied during the last month of her illness. From the time that she became paralyzed and was confined to her bed her general health slowly but gradually failed. Appetite remained fairly good throughout her sickness, bowels sluggish, bladder irritable. A partial control was gained over both after sensitiveness was regained. Sedatives were necessary when pain was severe. There was no elevation of temperature, except for a few days at a time. Temperature was below normal for the last week or two of her life. The tongue was always clean and the digestion good. Every particle of fat on the body was taken up and used by the system, and the patient finally succumbed from inanition on February 6. A partial postmortem was granted and made, assisted by Dr. J. H. Bacon. We found a decided curvature forward of the second, third and fourth lumbar vertebra, which were removed and subjected to a very careful examination. Nothing abnormal in the vertebrae nor the cauda equina could be found after microscopic examination of both.

To summarize briefly: The patient, by constantly sitting in one position, exhausted the nerve force of the lumbar plexis, causing an irritation in that region and, in an endeavor to relieve the pain, lordosis was encouraged, by bending forward of the lumbar vertebrae and by so doing relaxing the erector spinae muscles, giving the psoas muscles greater advantage in contracting until lordosis had advanced to the extent which we found. When we consider that no trouble could be located in the brain anterior to the fissure of Rolando, where the motor nerves arise that control the lower limbs; that the patient had no tenderness of the spine above the lumbar region and no paralysis above that point, that there was no paralysis of the abdominal muscles and that the limbs were flaccid; that there was no history of tuberculosis nor syphilis, we believe that we can safely exclude all causes, except pressure on the lumbar plexis at or about the point of exit from the lumbar vertebra. The fact that

sensation and motion was restored, after months of extension, proves that pressure was at least partially removed. Exactly where or what that pressure was, we will leave for your consideration.

DISCUSSION.

Dr. C. L. Mix, Chicago:—The case which Dr. Marey described was indeed an extremely interesting one. The symptoms were such that the diagnosis of a caudal lesion could be made with a good deal of accuracy. The knee jerks, instead of being exaggerated, as they would be in an ordinary case of transverse myelitis, were absent as in a peripheral neuritis. Moreover, the sensory disturbance was not segmental, but followed the pathway of the individual nerves. There was absence of the Babinski reflex, and there were none of the ordinary signs, such as decubitus, of a transverse myelitis. The signs which were present pointed very distinctly to lesion of the cauda and high in the cauda. It was one of those cases where the lesion was more in the conus than in the lower portion of the cauda.

The paralysis which was present when the young lady was brought to Chicago, was absolute in both legs. There was complete paraplegia of the type which is to be found in diseases of the lower motor neuron; that is to say, it was flaccid in type and associated with a certain amount of atrophy of the muscles. In addition to this, there was sensory disturbance and a few signs of a peripheral neuritis.

The next point, of course, was etiology, which, as nearly as I could determine, was tubercular. There was a tubercular family history, there having been one case of tuberculosis in the family. That is of minor importance, however. Much more prominent was the fact that adjacent to her in the factory where she was employed was a girl affected with pulmonary tuberculosis of rather marked type. This girl worked within two or three feet of her, and she herself attributed or was inclined to attribute her own illness to this relationship rather than to any family relationship. There was no barring out the possibility of tuberculosis of the spine, because of the presence of an occasional afternoon temperature, although for the greater part of the time she had no temperature whatever.

Subsequently she developed a bladder disturbance, although this does not occur so frequently in conus lesions as in lesions situated lower in the cauda. There was complete loss of control of the bladder, owing to relaxation of the sphincter. It became necessary to catheterize her, and catheterization was done carefully from time to time. In spite of this caution she developed some cystitis, which was, however, kept down very nicely and evidently was not the cause of death subsequently.

The improvement on treatment by extension was very marked. At the first there was an absolute inability to move the legs, but subsequently, with extension, control of the legs was regained. The superficial cutaneous reflexes were the first to reappear. The patellar reflex came back first on the left side and then on the right side. Subsequently the patellar reflex fully reappeared and became quite strong. Then there came a slight ability to move the left leg. The first movement the patient was capable of executing was adduction and then flexion of the leg on the thigh to a slight extent. After her return home, with continued extension, she finally became able to lift both legs from off the bed; so that she recovered from the paraplegia to quite a marked extent.

With proper hygienic surroundings we were able to relieve the girl's trouble to some extent, but the ultimate result could not be expected to be a very brilliant one. Some of these patients recover, but where the lesion is situated in the lower part of the cord, or where it involves the conus, the prognosis is not nearly so good as it is in the thoracic region, on account of the marked tendency to cystitis and other complications.

Dr. J. H. Bacon, Peoria:—I saw this patient after her death, and performed an autopsy on her. I removed three of the lumbar vertebræ. I found the young woman very much emaciated and the lordosis quite marked. There was nothing to suggest the trouble, except the abnormal condition of the spine. I removed the second, third and fourth lumbar vertebræ, but there was nothing to show that they were abnormal. I separated the spinal cord in this region, the region of the cauda equina, but neither the dura or other cord membranes were thickened. There was no evidence of inflammation. No increase of spinal fluid, and the fluid that was present was clear. Microscopic examination showed very few leucocytes, and the examination for tubercle bacilli was entirely negative. Examination of the bone marrow of bones removed did not show any tubercle bacilli. The bones were normal, as were also the intervertebral discs, so that it is impossible for this case to be one of Pott's disease in the lumbar region. That is out of the question.

What the diagnosis should be, I am uncertain. As I understand it, the condition improved, and that fact would help to rule out a new growth in the spinal cord. I can see no reason why a tumor of the cord should show any improvement in symptoms. The fact that the temperature remained nearly normal throughout the course of the disease would tend to rule out inflammation, except tuberculosis and actinomycosis. The history of the case tends to show that there was some disease of the spinal cord higher up in the region of the eleventh and twelfth dorsal, or possibly the first lumbar vertebra, but the segments of the cord do not correspond to the segments of the spinal column. The cord may have been affected higher up, but it was impossible to examine the cord in that region because an extensive autopsy was not permitted.

Of course, there may have been a hemorrhage in the cord, but the previous history of loss of entire control of the sphincters would be rather unusual in a hemorrhage unless there would be some external signs of it. Although it is impossible in this instance to obtain any history whatever of a syphilitic taint, it seems to me very likely that the lesion was syphilitic in character, possibly a gumma, which would explain the improvement seen eventually. I would not attempt to make a diagnosis of the case at this time, because it is difficult, but I am sure that tuberculosis can be ruled out entirely.

Dr. M. S. Marcy, Peoria:—I would like to ask Dr. Mix to explain why, if this case was tuberculosis, the vertebra and cauda equina were found to be normal. Would not the microscope have given us a clue?

Dr. C. L. Mix, Chicago:—I can not answer that question because I can not explain the case. I know that it is not a syphilitic lesion, and I know that Dr. Marcy is very well satisfied as to that. We just took a chance, as we always do, and gave potassium iodid vigorously for a while, but there was nothing in the history nor was there a single syphilitic taint in the girl or in her antecedents which could suggest such a possibility. Syphilis can be ruled out absolutely.

As far as the lesion in the eleventh and twelfth dorsal and first lumbar segment of the cord is concerned, this is quite out of the question, on account of the fact that there was no transverse myelitis.

The distinction between a myelitis and a peripheral lesion is perfectly easy. In the one case we have the increased knee jerks with the Babinski sign, and in the other case there is absence of both these signs. The only thing one can do in this case is to make a diagnosis of disease of the nerve fibers as they emerge from the cord and not disease of the cord itself. Why no tubercular lesions were found in the bones after death I can not answer. I supposed it to be an ordinary tubercular lordosis, and the symptomatology was accounted for by such a supposition. When first examined by me the spinal column was absolutely straight. The lordosis appeared subsequently.

THE TREATMENT OF INOPERABLE MALIGNANT TUMORS— CARCINOMA.*

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WAUKEGAN.

I have two reasons for presenting a discussion of the treatment of cancer at this time: First, the importance of the subject, and, second, the hope that I have discovered a method which may result in saving many lives. It has been affirmed by Wutzdorff¹ that there has been an increase in the number of cases of cancer in the last few years, and some, with Sir W. M. Banks,² believe the increase is due to excessive meat eating. At any rate, it has been shown that many cases occur in robust and well-fed individuals and especially in the comparatively young of both sexes. It often happens that the presence of such a growth is not suspected until it is too late for operative interference, because of the fact that the appearance of the patient does not indicate the progress of the disease (Nothnagel³). Many cases also occur which can not be operated on because of the location, as when situated near vital organs or around important blood vessels. Then, again, there are patients who will not submit to an operation.

To the medical man has usually fallen the duty of caring for these classes of unfortunate cancer patients, and from time immemorial the professional mind has been taxed to discover some means of relief, some agent or remedy which might destroy the abnormal growth.

Boerhaave used mercury; Lefebvre (1775), arsenic; Duparcque (1850), ice; Störk (1761), conium maculatum; Weise (1829), animal charcoal; Clay, chian turpentine. Others have recommended red clover tea, tincture of thuya, tincture of hydrastis; cundurango, formalin,⁴ and so on to x-ray and radium, Finsen's light and serumtherapy. Dennis⁵ says that drugs are always a failure in cancer, and he voices the opinion of surgeons generally.

I have had no experience with serum therapy in this condition, but Senn⁶ thinks it gives negative results. J. Carles,⁷ however, believes good may result from it and suggests that it may be used like other sera with the hope of increasing the resisting power of the weakened organism, and Reynier⁸ reports a case of successful treatment by Wlaëff. The employment of serum treatment implies a belief that cancer is caused by some micro-organism. A. Urquhart⁹ thinks there is a higher cancer mortality in riparial districts than in non-riparial regions, and that this fact seems

* Read before the Section on Medicine of the Illinois State Medical Society, at Springfield, May 15-17, 1906.

1. Deutsche Med. Wochenschrift, March 6, 1902.

2. Lancet, March, 22, 1903.

3. Diseases of the Intestines, Nothnagel.

4. British Med. Jour., May 30, 1903.

5. Jour. A. M. A., Oct. 19, 1901.

6. Medical Record, July 13, 1901.

7. Jour. de Med. de Bordeaux, May 1-8, 1904.

8. Gaz. heb. de Med. et Chir., Feb. 21, 1901.

9. Brit. Med. Jour., April 4, 1904.

to support the view of probable parasitic infection. Roswell Park¹⁰ maintains that the parasitic theory fully explains the origin of the cancer. C. B. Keetley¹¹ believes the cause of cancer is a living organism, and that the most frequent situations of this growth in the skin, cavities, canals and their adnexa are favorable to the parasitic theory of the disease. N. Senn⁶ does not seem to believe in the parasitic theory, but, like Morris, adheres to the embryonic erratic-cell theory of Cohnheim.

O. Schmidt¹³ thinks his investigations show that the protozoön parasite, which he believes is the cause of cancer, has an intermediate host in a certain fungus—*Mucor racemosus*. Lately Jacobs and Geets¹⁴ have been led to believe that cancer may be treated by therapeutic inoculation of bacterial vaccine. Their researches have satisfied them (1) that in cancerous cachexia there is a specific micro-organism, which they believe to be the *Micrococcus neoformans* (Doyen); (2) that it is practicable to immunize the human organism by means of a series of inoculations of *Micrococcus neoformans* vaccine if these are properly controlled by examinations of the opsonic power of the blood. In all the patients they treated they observed improvement. An interesting fact noted in their experiments is that they succeeded in cultivating the *Micrococcus neoformans* from 90 per cent. of the tumors examined. By inoculating animals (mice and white rats) with young and vigorous cultures of the micro-organism they produced local and general neoplastic lesions in 30 per cent. of the cases.

If carcinoma is of parasitic origin, the serum treatment will probably be found eventually to be reliable, especially as a prophylactic agent, like vaccine virus in smallpox and antitoxin in diphtheria. Scarlet fever is recognized by the majority of the profession possibly as a bacterial disease, notwithstanding the fact that no single bacterium has been discovered which the faculty accepts as the cause of this malady. Other diseases can be placed in the same category, and perhaps it is not too much to anticipate the general acceptance of the parasitic theory of the origin of carcinoma. The earnestness with which bacteriologists are laboring gives hope to the more enthusiastic students of etiology that a demonstration of the cause may not long be delayed.

Kosinski¹⁵ despairs of ever finding a remedy to cure cancer. All we can hope for, in his opinion, is that the discovery of its pathogeny may give us a clue to some prophylactic measures. At the present time no prominent place is given to prophylaxis in the management of cancer. Keetley¹¹ thinks that something can be done (1) by attending to ulcerations and beginning troubles of any kind, (2) by avoiding well-known sources of irritation, as smoking, if there are sores in the mouth, and the use of strong condiments. Trades in which irritation of the skin is common, as chimney sweeping, must be abandoned if rashes and other cu-

10. The St. Louis Review, July 19, 1902.

11. Lancet, Aug. 31, 1901.

12. Brit. Med. Jour., Dec. 12, 1903.

13. Munch. Med. Woch., lIII, No. 4.

14. Lancet, April 7, 1906.

15. Arch. Internationales de Chir., 1903, No. 2.

taneous diseases are not readily cured. (3) Such patients should use sterilized milk. G. C. Adams¹⁶ recommends oil of eucalyptus as a specific for the arrest and prevention of the disease. Dr. Lauder Brunton¹⁷ was the first to investigate the chemical composition of cell-nuclei from which has been secured a compound called nuclein. This substance is an albuminoid and contains phosphorus.¹⁸ Nuclein is the most distinctive element of leucocytes, being the constituent by virtue of which the cell grows (E. R. Larned¹⁹). Vaughn and McClintock¹⁹ have demonstrated that the nuclein is the germicidal agent in blood plasma and is furnished by the polynuclear leucocytes.

The possible proteid, trypsin, differs from the proteid nuclein by containing no phosphorus; but phosphorus is closely associated with the formation of zymogen granules in cells (Macallum²⁰). Trypsin, therefore, might be looked upon as belonging to the proteid or nuclein class of remedies in addition to its properties as a digestant. Dr. J. Beard²¹ believes that trypsin arrests or destroys the growths in experimental cancer, and that it might be a rational remedy to use in the human being; but, so far as known, no human cancer has been cured by that agent.²² Since nuclein contains phosphorus, it is a tonic, and, besides its germicidal properties, it has other therapeutic value. That it is a rational agent in the treatment of various dyscrasie is attested by clinical experience. For a number of years the writer has used nuclein with such success as to lead him to hold it in high regard as an agent for the treatment of malignant growths and other low dyscrasie.

The bromid of gold and arsenic is another remedy which, in my hands, has seemed to prove useful in the treatment of inoperable carcinoma; but I have always used it in connection with other agents. I have had more confidence in the nuclein than in the bromid, chiefly, perhaps, because I had two cures in which I did not use the bromid, while I have had none where nuclein was not used. I have come to consider the administration of nuclein and the bromid of gold and arsenic together as a most rational and valuable treatment in cases of inoperable carcinoma. It is the combination upon which I depend rather than on either agent singly.

I have used this method of treatment in many cases with apparent benefit, but I am able to report only five cases in which the treatment was carried out as prescribed from the time the patient came under my observation until the termination of the case. One of the cases died. The other four recovered.

Case 1.—Mrs. S., aged 50. She had suffered no serious illness prior to the beginning of her present ailment, about one year before my first visit. Her first symptoms were indigestion, flatulence, heart burn, eructation of gas and similar disturbances of the stomach. The symp-

16. *Lancet*, Feb. 13-20, 1904.

17. *Jour. Anat. and Phys.*, 2d series, iii, 91.

18. *Text-Book of Chem. Phys. and Path.*, Halliburton.

19. *Chicago Med. Recorder*, June 15, 1902.

20. *Jour. A. M. A.*, Feb. 17, 1906, p. 512.

21. *Brit. Med. Jour.*, Jan. 20, 1906.

22. *Jour. A. M. A.*, March 10, 1906.

toms had gradually grown worse until pain and vomiting had supervened some weeks before. She had lost flesh and grown weak. At the time of my first visit, the patient was lying on a couch, in pain, pale and cachectic. She had been vomiting and apparently had suffered much. The ejecta having been destroyed, no opportunity offered to analyze the vomited material at that time. The temperature was normal. Temporizing treatment was adopted and the patient was not seen again for a week. Then I was summoned hastily to see her and found her vomiting and in great pain. She had not been free from these symptoms since my former visit. This time, following my directions, the vomited material had been reserved for examination. The patient had not improved. The ejecta was typical and abundant. It contained dark grumous material, mucus and remnants of food. The occurrences of vomiting were periodical. A distinct tumor could be outlined at or near the pylorus. The bowel evacuations also contained a dark material. Chemical examination showed increase of lactic and absence of hydrochloric acid. The microscope showed cell-nests and bacteria. Diagnosis, carcinoma of the stomach.

Treatment.—The local treatment consisted of the use, by mouth, of a 2 per cent. solution of hydrozone. The patient was told to drink half a pint of this solution half an hour before mealtime, lie on the back for five minutes, then turn on the right side and remain in that position for twenty-five minutes. This remedy was given for its antiseptic effect. The internal treatment was nuclein. The particular preparation was Reed and Carnrick's protonuclein. The dose was 24 grains a day. This time the patient was kept under observation for a month, until the symptoms were not quite so severe. The treatment was continued, however, and after several weeks I called to see the patient in another exacerbation of her symptoms; but this time they were not so severe. After a few days I dismissed her again, with advice to continue the nuclein, but to omit the hydrozone. Some five months later I called to see the patient and found her at work about the house. The symptoms and tumor had disappeared and the cachectic look had given place to a more healthful appearance. I did not see her again, but three years later I was informed that she was well and had had no return of the old symptoms.

Case 2.—Mrs. E. C., aged 45. She was a very active woman and had become overtired in the spring and early summer of 1898, caused by unusual demands upon her strength. Upon my recommendation, she took a vacation in the month of August for rest and recuperation. After her return home, about September 1, she entered into the rush of social and other duties as before. In about three weeks pain in the region of the appendix led the patient to make pressure there to see if she could discover the cause of her distress. She could distinctly feel a tumor, and my attention was immediately called to the growth. Fearing appendicitis, she was ordered to go to bed and a system of expectant treatment was adopted and results awaited. The symptoms did not change as time passed on, except to grow more severe. The tumor was painful, tender upon pressure; there was indigestion, nausea at times, constipation, flatu-

lenec, loss of flesh and, finally, difficulty in using the right leg because of the pain and soreness in the cecal region. The pulse and temperature were normal. After the patient had suffered for six weeks, I called Dr. H. P. Newman in consultation. Upon his recommendation, the patient was taken to Marion Sims Sanitarium for operation. The operation was done Nov. 14, 1898. When the abdomen was opened, a tumor, the size of a child's head, was found located at the cecum. Infiltration was extensive, involving the adjacent intestinal, peritoneal and parietal structures. No microscopie examination was made, but the macroscopic appearances were those of carcinoma, and that was the diagnosis. The adhesions were so great that no attempt was made to remove the growth. The friends were told that the patient could not live more than three or six months. I undertook the almost hopeless task of medical treatment. Remembering the success of the treatment in Case 1, with Dr. Newman's permission, I began the administration of nuelein. For about two weeks after the operation the symptoms of obstruction grew worse. In a month she was taken home. I was very anxious to do something more, if possible, to help the patient to recover, and so consulted Dr. J. B. Murphy. At his suggestion I used arsenaura, a preparation of bromid of gold and arsenic. These two agents, nuelein and the bromid of gold and arsenic, constituted the treatment I used with this patient for the next five months. After returning home, the patient was kept in bed for a time. The entire time of keeping the reclining position was six weeks. This was a part of the treatment. One of the most annoying symptoms while in the hospital and for a while afterward was sciatica; this was on the right side and at times was excruciating. Three months after the operation the symptoms were less severe and the tumor had not increased in size. From this time the patient was out of bed and exercising as her strength would allow. Her symptoms continued to grow less severe and the tumor to diminish in size. The first of May the bromid was dropped, chiefly because the patient did not wish to take it any longer. The symptoms had subsided and the tumor was quite small. The nuelein was continued. On the first of May I went to Europe, returning about the first of July. At that time the patient was attending to her usual duties. Examination revealed the satisfactory but astonishing fact that the tumor was gone—had entirely disappeared—and there was complete absence of all symptoms or distress. It has now been seven years since the cure, the patient is very well, and there has never been any indication of returning trouble.

Case 3.—Mrs. C. L. C., aged 43, the mother of three children, the youngest 14 years old. This patient came to me in November, 1900. She had been suffering pain in the pelvic region for several months and, at the time of calling at my office, was troubled with an offensive discharge. She was cachectic and had lost flesh. Examination revealed carcinoma of the cervix and probably of the uterus and fixity of the organ. I advised an operation, in the hope that the growth might be found to involve only the uterine and adjacent tissues and that the entire tumor might be removed. It was a month

later and just before the Christmas holidays that she decided to go to Marion Sims Sanitarium for an operation. I was unable to attend the operation, but the tumor could not be removed, and only trimming and curetting was done. I did not see the patient again until Jan. 22, 1901, after she had returned from the hospital. When I saw her she was still suffering pain, but there was no discharge. The other symptoms were as before the operation. The treatment adopted in this case was nuclein and bromid of gold and arsenic. The local treatment consisted only of anti-septic douches. We did not have trained nurse service and I was continually reminded of the need of better care for my patient. The bromid was not used very long, for some reason which the patient urged. The nuclein and cleansing treatment were continued, however, as carefully as circumstances would allow. The bromid was used for about six weeks. For some weeks after the discontinuance of the bromid the symptoms remained at a standstill; but soon they began to grow worse and continued to increase in severity until the death of the patient, the middle of November, 1901, about one year from the first time I saw the case.

Case 4.—Mrs. M. H., aged 32, the mother of one child, 6 years old. She came to me in January, 1901. She was very nervous, somewhat cachectic, and suffered slight pain in the pelvis. She had slight, if any, discharge, but was losing flesh. Digital examination revealed a hard enlargement on the anterior lip of the cervix. The growth presented considerable resistance to the finger, but the uterus was freely movable. The use of the speculum showed a small cauliflower area at the edge of the hardness and a slight discharge. The diagnosis made was probable carcinoma of the cervix. The patient put herself under my immediate care, so that I could watch the case daily. The local treatment adopted was spraying the cervix with full-strength hydrozone, and the daily use of astringent and sterile douches. Internally, nuclein was used in 24-grain doses daily. A nervine and nux vomica were added to control the patient's nervous or unstrung condition. After a month of this treatment, the symptoms did not seem to be so severe. From this time the patient began to improve. In three months from beginning the treatment the hardness of the tissues had disappeared, the cauliflower appearance was removed and the pain and other symptoms had entirely subsided.

Case 5.—Mr. M. L. E., aged 55, a teamster. He had been strong and well and usually free from any ailment except a diarrhea until about a year before I saw him. The first intimation he had of serious trouble was in March, 1904. At that time he had pain and diarrhea. A physician was called and discovered a tumor in the region of the sigmoid flexure. After recovery from the temporary illness, he sought advice concerning the tumor; and, although he visited several surgeons of note, no one seemed willing to remove the growth, and their opinions gave him no hope of final recovery and little expectation of temporary relief. Most of them refused to operate, saying that the tumor was probably cancer and he would be better off without an operation.

He came to me in January, 1905, and I found the following conditions and symptoms: He was cachectic, was losing flesh and had a

tumor in the region of the sigmoid, about the size of a child's head, which was tender on pressure. He had sharp, cutting pains in the tumor, suffered from flatulence, and had a diarrhea with scybalous feces. He came to me because of my success with Case 2, of which he had heard. I advised an operation. He was willing to submit to one, but said that no one whom he had visited would agree to do it except Dr. J. B. Murphy, who was willing to operate upon request, but could not advise it with any hope of success. He returned to Dr. Murphy and was operated about January 25 at Mercy Hospital. Upon opening the abdomen a tumor four or five inches in diameter was found at the sigmoid flexure. The infiltration into the adjacent structures and the adhesions were so extensive that removal was out of the question. The diagnosis was carcinoma of the sigmoid. The wound was closed and the patient returned to bed. About the 20th of February he came to me again, and on Feb. 22, 1905, I began medical treatment. I advised him to return to bed, which he did, and remained in bed for eight weeks after the treatment was commenced. The treatment was bromid of gold and arsenic, 45 drops, and nuclein, 36 grains, daily. By the 1st of May, his pain had ceased, the tenderness had diminished and the tumor had ceased to grow. By the 1st of July it was plain that the tumor was slightly smaller. He was permitted to return home on September 1. About the middle of October he came again to my office. The tumor had entirely disappeared and all symptoms had subsided, including the diarrhea. Dr. Murphy saw the patient soon after and confirmed my statement that the tumor had disappeared. A letter from the patient last month states that there has been no return of any of the symptoms—seven months after he was pronounced cured. He is in better health than for many years.

January, 1907, one and a half years after the cure was completed, he is in splendid health.

In presenting the foregoing cases, the author does not suggest that he has found an infallible cure for cancer, but rather that such results must convince us that cancer may be placed on the list of curable diseases. The treatment, to be successful, requires great care in carrying out the method. If the remedies are carelessly administered, satisfactory results can not be expected. In all serious cases and internal tumors, I advise remaining in bed for weeks, depending upon conditions in individual instances. The bromid must be gradually increased. Few patients will bear large doses from the beginning.

MULTIPLE SCLEROSIS, WITH REPORT OF A CASE.*

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CHICAGO.

Multiple sclerosis is a comparatively common disease of the cerebrospinal nervous system. In some communities on the continent of

* Demonstrated before the Chicago Neurological Society, Dec. 6, 1906.

Europe, it ranks next to tabes in point of frequency. We have been told recently that it is more frequent in our own country than we have been accustomed to believe. Be this as it may, we are certainly better qualified to diagnose the cases since we have become more familiar with the atypical forms of this polymorphous disease. Multiple sclerosis, like hysteria among the functional neuroses, appears under so many guises that only a Charcot could have created something like order out of its chaotic array of symptoms. He has given us the tripod of nystagmus, scanning speech and intention tremor, to which spastic gait has been added as a fourth classical sign. Numerous observers have quite recently widened our knowledge of this disease, enabling us to recognize the atypical cases almost as readily as the typical ones.

The following case is a good example of multiple sclerosis in which typical and atypical symptoms occur in great profusion.

CASE.—A. B., aged 23, clerk, was first seen on Aug. 11, 1905.

Family History.—Grandparents on father's side died at 73 and at 68 respectively; grandfather had atheromatous arteries and grandmother was a nervous woman. On the mother's side, the grandfather reached the age of 83; grandmother died at 45 from an excess of uric acid(?) Mother is still living and somewhat nervous. Father is healthy, but shows quite a degree of arteriosclerosis at 52. An only sister died of summer complaint at eighteen months. There were no brothers. The collateral branches are free from nervous disease.

Personal History.—Patient had the ordinary diseases of childhood and was subject to nasal catarrh, but he never suffered from any nervous complaint until the beginning of the present trouble. About twelve years ago he developed paralysis of the external rectus, with diplopia, which disappeared in two to three months. One year later, he was accidentally thrown off a moving van. He fell to the ground, sustained a slight trauma of the head and was picked up in an unconscious state. There was rapid recovery, but the parents noticed that he had become nervous after the fall. As he made slow progress in physical and mental development, he was sent to a military academy. About four years ago, while at that school, he suddenly felt a weakness in his legs, and particularly in the right foot, which felt stiff and clumsy. This attack passed off after a short time. About two years ago he had a different attack; this time there was no weakness, but he experienced a sensation of numbness and tingling in the right half of his face, including the ear, which paresthesia rapidly extended over his right arm and leg. There was also a dulling of the pain sense in the same area; a pin prick was perceived as touch and not as pain. The entire attack of what might well be called a sensory hemiplegia lasted one month and was shortly followed by appendicitis. He was operated on and made a good recovery. Shortly after the operation he became exceedingly nervous and began to tremble all over his body. One year ago, after a lengthy vacation, he developed burning sensations in his feet and his nervousness became more accentuated. Last winter he had a transient weakness of the right hand; for about twelve hours he was unable to flex the fingers into the palm of the hand. This soon passed off, until about ten days ago, when the fingers of the right hand again became weak, and a feeling of numbness was experienced over the left thigh and leg, but no pain. Constipation has always been a prominent symptom. The bladder functions have occasionally suffered in the shape of frequent attacks of urination. Of late, vertigo has been quite troublesome, although short vertiginous attacks have occurred one or two years ago.

Examination.—Patient presents a silly, vacant expression of countenance and is rather poorly nourished. His gait is spastic and reeling. Strength is not impaired in the upper extremities, but the right hand is not as strong as the left. Abdominal and cremasteric reflexes are absent. The deep reflexes are all markedly accentuated. Rectus clonus is indicated and ankle clonus well marked on the

right and only indicated on the left side. Babinski's toe sign is present on the right, but cannot be elicited on the left side. Intention tremor is distinct in fingers and tongue; and in the muscles supporting the head. Sensory disturbances are slight; touch and pain senses seem normal everywhere; muscle and joint senses are slightly perverted in right foot. Nystagmoid movements are seen when the patient looks to the extreme right or left. Ocular reflexes and fundi are normal. Speech is defective, in that there are occasional explosive utterances, and in ordinary conversation it has a tendency to approach the scanning type. Mentality is below the average. There is a tendency to euphoria, and, at times, depression is the prevailing mood.

SUMMARY.

Intention tremor, scanning speech, nystagmoid movements, exaggerated reflexes, Babinski sign, transient motor and sensory palsies, attacks of vertigo, insignificant objective sensory disturbances, slight and transient sphincter trouble, remission and intermission of symptoms, absent abdominal and cremaster reflexes—are symptoms that make this a case of the typical Chareot type of multiple sclerosis, and, besides, satisfy the demands of modern authors. The question of trauma as a cause in this case can be disposed of by recalling that the first symptom—an external rectus paralysis—occurred one year prior to the fall. If any influence is to be attributed to the trauma at all, it can only be that of hastening the latent processes and not of actually causing them.

In conclusion, I wish to record my experience with the various drugs recommended in this disease. Strychnin, iodids, arsenic, iron and other so-called tonics do not seem to act beneficially. The best single drug for palliative treatment I have found to be sodium bromid in doses from 15 to 20 grains three times daily. It has a tendency to relieve the extreme nervousness and often gives the patient a greater feeling of security in walking. Several patients have repeatedly assured me that "that salty medicine" has done them more good than anything they ever took. The young man whose case I reported has been given sodium bromid with the result that he has been more comfortable than under any other form of treatment.

ILLINOIS MEDICAL JOURNAL

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JANUARY, 1907.

CONFERENCE FOR STATE CHARITABLE INSTITUTIONS.

We would call attention to the communication, on another page of THE JOURNAL, from Dr. Frank Billings, President of the State Board of Charities, telling of the recent conferences on state charitable institutions.

Let every physician in the state read carefully this communication from the President of the State Board of Charities, and then constitute himself a committee of one to see or write to his representatives in the next General Assembly urging them to make the appropriations recommended by the conference and endorsed by His Excellency, Governor Deneen. Let the president of every County Medical Society throughout the state call a meeting of his society, that that body may by official action also serve notice on their representatives that it is the sense of the medical profession in each particular locality that the recommendations of the conference be carried out. Such official action by such influential organizations can but have great weight with the members of the General Assembly when these questions come up before them.

It needs no argument to convince the medical profession of the state of the urgent necessity of the various objects recommended by the State Board. Illinois must not lag behind in caring properly for her thousands

of epileptics, for her thousands of victims of tuberculosis, and in furnishing the life-saving, but expensive, diphtheria antitoxin. She can well afford, and ought, to spend the money necessary to make proper provisions for these classes of patients. The men at Springfield who manage her affairs will see to it that money is appropriated for these objects if they can be made to feel that they have the approval of their constituents, especially of those constituents best fitted to judge of the worthiness of these objects, i. e., the members of the medical profession.

The time is ripe for the various steps proposed by the State Board of Charities. The personnel of the board is evidence of Governor Deneen's attitude toward such matters. He has appointed on the board two physicians known throughout the state for their integrity, disinterestedness, capacity for affairs and for their generally strong character. He has appointed as lay members men and women of equally strong character, and all are willing and anxious to work hard for the best interests of the state at large, unhampered by outside political interference. They have been studying thoroughly and earnestly the needs of the various state institutions and are well qualified to say what are these needs. We can safely follow their lead in asking for the appropriations which they recommend. Let us back them up by serving notice, each and every one of us, on our respective representatives at Springfield that they heed the suggestions made by our State Board and vote the money necessary to carry them out. Thus will they place Illinois well in the van as a state progressive in affairs medical and scientific as well as in affairs material, and make her an educational center to which other states in the Union will look for leadership in the management of institutions for dependent citizens.

FEES IN CARROLLTON AND GREENE COUNTIES.

Greene County, Illinois, is one of the most fertile counties in the state and is inhabited by people of more than usual prosperity, and the medical profession of that county is well educated and for many years has had a county organization. It seems that there has been great laxity in the past in regard to the compensation of physicians. This finally became so intolerable that the members of the profession in the County Society, at a recent meeting, decided to make a change and to advance the prices for medical services to a modern standard. This action has been denounced by the lay press in the most unjust and unreasonable manner. The society has been called a medical trust, and the impression is given out that people are being charged an exorbitant sum for medical services. The dispatch that we have seen referring to this matter is dated at Carlinville, county seat of a neighboring county, and not from Carrollton, the county seat of Greene County, and it may be that the feeling

has been exaggerated in this dispatch. We hope that the profession of Greene County will not be deterred from carrying out its plans by the remarkable abuse which has been heaped upon it, but will demand fees commensurate with the importance of its work and responsibilities connected therewith.

BEWARE OF THE SCOPOLAMIN-MORPHIN ANESTHESIA.

Owing to the remarkable statements of a certain St. Louis surgical writer, quite a number of members of the profession in the Mississippi Valley have been using this form of anesthesia. Up to the present time we have not learned of any disasters from its use in this part of the country, but that it is a combination which, if used at all, should be used with the greatest of care, we are well convinced. Dr. H. C. Wood, Jr., of Philadelphia, in the December issue of *American Medicine*, has taken this matter up and presented a strong indictment against the use of it in any case. He has collected from literature 1,988 cases; in these there have been twenty-three deaths, of which, after careful reading of the descriptions of the symptoms and the author's own conclusion, he decides the deaths due to the anesthesia in nine cases. The mortality in this method reaches, therefore, the astounding figure of one death in 221 anesthetics. In comparison with one death in 15,000 from ether, hyoscin-morphin anesthesia becomes a veritable slaughter.

In view of the fact that this combination for the production of surgical anesthesia is scientifically irrational, and has yielded a mortality of over four per thousand, and that in 69 per cent. of the cases the anesthesia has been unsatisfactory, Dr. Wood thinks it must be either a very bold or a very ignorant surgeon who will persist in its use.

A FURTHER PREACHMENT.

JAMES F. PERCY, M.D.

PRESIDENT OF THE ILLINOIS STATE MEDICAL SOCIETY.

GALESBURG.

It is interesting, when one thinks of it, that there is nothing higher or lower now in things medical in this country than the County Society. It is the unit from which medical organization will continue to grow for the coming centuries. This plan of organization, arranged for with so much skill and foresight by the committee of the American Medical Association, however, makes many demands on the individual physician to develop his work in order to match in completeness the plan of organization outlined by this committee.

The practice of medicine to-day in no way differs, so far as the actual work is concerned, from what was true generations ago. The scientific side has kept pace with or even distanced the work in other branches of

human endeavor. But the direct application of the science of medicine, as an art, to the individual patient by the physician working alone has not advanced as it should. No matter what the early efforts of a physician may be to give his patient the latest and best in the treatment of his disease, the final effect of the practice of medicine in the greatest number of instances resolves itself into the mere seeing of patients. The physician to-day who sees the most patients is the one who is usually considered, both by the lay and the professional mind, the most successful. But is he? What is the final effect of merely seeing patients upon the individual practitioner of medicine? He becomes a routinist both in habits of thought and in applying the art of his profession. He who permits himself to drift into a *status quo*, where he merely exists on the routine demands of his work, never realizes the full measure of his possibilities, no matter what his ability or training. In the beginning it is not unnatural that a physician's desire to do the best possible for his patient, in order that the reputation obtained for good work may be the means of bringing others to him, should overshadow practically every other consideration. But too many of us never get beyond this stage, at least not until we have lost so much valuable time that the loss is almost irreparable.

How many of us have ever sat down and in cold blood figured out our relationship to the final goal that we are all going to reach some day? If we have figured on any other basis than that of getting patients, what have we included in our thought for the future? The basis of the answer to this must be predicated on the fact that when one line of action does not bring the desired results, we should recognize it, and that, too, at a period not too late to change. Now the method of staying at home (if this can be dignified by the term method) in order that we may not miss anything, especially an obstetrical case, does not bring continuous good results. It is all right for the first year or two, after one's graduation, perhaps; but persisted in it will dwarf the individual who adopts it and finally make the discontented doctor who is to be found everywhere. The "waiting for an obstetrical case" has withered more doctors than any other part of the work that is demanded of our profession. I mean this in the sense that the physician who is capable of getting and holding a large practice under the conditions which now obtain could do much more both for himself and his family, as well as for the community in which he lives, if he could get beyond the point where he is looking for patients rather than, as ought to be the case, the patients looking for him.

I said above that the waiting for baby cases had done more to destroy the initiative in many doctors than anything else. In these latter days we have added another hindrance to our progress. It can be stated in the one word "tablets." I have nothing to say about the firms that put out these "little giants." But in their ability to destroy whatever of ambition the one who uses them may have for a correct knowledge of therapeutics, ready-made tablets stand pre-eminent. The most of us do not give the brains that we have a chance to help us to better things. We do not start in as we should on some mental problem connected with our

work, and from this step to something higher until finally we reach the peaks where the ozone gives us more life and therefore greater capacity for larger things.

The genius in the medical profession is rare. I can not remember that I ever met one, but I have met lots of great big fellows who possessed and made good use of the average amount of brains which was theirs. One of the glories of our country is that they are to be found everywhere, and in all lines of work; but sadly, let it be said, they are not all measuring up to the possibilities that are in them. The big fellows who are leaders, especially in the medical profession to-day, are rarely men of more than average brain power. It is not an uncommon thing to hear surprise expressed, in after life, by those who knew them in school, that they have gone so far. There is only one explanation of their success, and it can be expressed by saying that they are willing to think. They are the ones to whom we go for new methods, not only of technic, but for suggestions for the betterment of our own work. They change their methods. How many of them are doing things as they did ten years ago? How many of us are still doing them in the same old way? If we are, it is not a far step until we are dissatisfied with everything connected with our profession; not only with what it has brought us, but with all the schemes that have been worked out for its better organization and protection. There is no profession that has a better opportunity for good constructive thinking than the medical profession, especially those of its members who are in general practice. How many utilize the time when driving between patients to think out and settle the problems which we meet on every hand not only as to our patients, but the larger ones that apply to the profession as a whole.

The writer has known for years—indeed, before he was a physician at all—a member of our profession whose name is now on every tongue the world around. He lived, and still lives, in a small country city, if I may be allowed the term. I well remember how, in the early days of his professional life, that man began with that most valuable book for every physician: *Pathology and Therapeutics* by J. Collins Warren, and made himself so familiar with every page that it was a part of his everyday thought. Next he mastered Gray's *Anatomy*, and he kept at both of these books until he practically knew every page. By this time he had a large general practice well in hand, and then he began to look around for the fellows who were doing some one thing well. When these were found, he went where they were and stayed long enough to become perfectly familiar with the things that they were doing better than any one else. This member of our profession never missed an opportunity to attend a medical society, county or state. It is unnecessary to say that he was always welcome, because he always had something to give. The experience gained at these meetings taught him to think and express himself on his feet so that to-day he is listened to when he speaks with a respect that is given only to those who are known to have made good. This man's name and his work, I repeat, are known wherever the lan-

guage of medicine is printed. As I write of him it occurs to me to paraphrase an ancient verse: To him that giveth shall be given; to him that giveth not shall be taken away even that which he had to give. He learned to utilize his time to the very best advantage; most of us learn to let time kill us. He trained his average amount of brains to work for all they were worth, and by trying he learned what he had no possible means of knowing in the beginning—that they were worth a great deal.

CORRESPONDENCE.

STATE CHARITIES.

CHICAGO, ILL., Dec. 24, 1906.

To the Editor:—In October there was held at Springfield a conference made up of his Excellency the Governor, State Board of Charities, superintendents of the hospitals for the insane and the Asylum for Feeble-minded, and various individuals representing the medical profession, philanthropic institutions, charities, etc. The purpose of the conference was to obtain an expression of opinion as to the improvements needed in the existing charitable institutions in the state and to outline the needs of new institutions for the care of people suffering from epilepsy and tuberculosis. Very satisfactory work was done at this conference and various committees were appointed to work upon the problems of improvement of the present state institutions, to investigate the needs and the cost of proposed new institutions, etc.

On December 14 the conference reassembled in Chicago and was attended by his Excellency, the Governor, the superintendents of all of the state hospitals for the insane and the Asylum for Feeble-minded, the members of the State Board of Charities, some of the trustees of the various state institutions, by Drs. Evans, Churchill, H. I. Davis, Mr. Bicknell of the Bureau of Charities, Mr. Kingsley of the Relief and Aid Society of Chicago, and others. It will be of interest to the profession of the state to know that in reference to improvements in existing institutions the following were passed upon and agreed to unanimously by the members of the conference:

First.—The institution of a training school for nurses in all hospitals for the insane in Illinois.

Second.—The establishment of psychopathic hospitals for the treatment of the acute insane, which would include putting in the apparatus necessary for hydrotherapeutic treatment.

Third.—The improvement in the physical properties, which would include new plumbing, iron beds to replace wooden ones, making buildings safe from fire risk, improving ventilation, etc.

Fourth.—The establishment of an institute of psychopathology in one of the institutions, with branches in all of the state hospitals for the insane and the Asylum for Feeble-minded at Lincoln, the head of the institute to be under civil service control, and a suitable man to be placed

in this position to afford clinical and pathologic instruction to the medical employés of the state and later, it is to be hoped, to physicians outside of the state institutions. The purpose of this is to bring the medical service to a higher standard and to enable the institutions to produce scientific and better results in the treatment of state charges.

In addition to the improvements in existing institutions, it was agreed that the conference would recommend to the people of the state that the legislature appropriate funds for the following purposes:

First.—Fifteen thousand dollars for the free distribution of diphtheritic antitoxin for the use of the poor in the state outside of Chicago under the auspices of the State Board of Health.

Second.—Two hundred and fifty thousand dollars for the establishment of a farm or colony of epileptics. It was proposed that a farm of from 800 to 1,000 acres of land be purchased at a cost of about \$80,000; that the preparation of the land for the colony, which would include the erection of a power building, making sewers, etc., should cost \$50,000; five cottages to cost \$10,000 each for 100 patients; these cottages to be occupied by adult epileptic patients who would be able to work and who would be employed in the first year or so of constructive work. Later, perhaps in the second year, two pavilions to hold 50 patients each, to be occupied by patients who are too young to work or from some other reason not able to do the necessary hard work of construction; these two cottages to cost \$40,000. The remaining \$30,000, it was estimated, would be sufficient to maintain the institution until 1909, when the legislature will meet again.

Third.—One hundred and fifty thousand dollars for the establishment of a state sanatorium for the treatment of incipient tuberculosis. The conference recommended that a tract of land of about 320 acres be purchased, which should be high land, drained and easily accessible and yet sufficiently removed from any city or large town to insure an abundant supply of pure air and water. That the buildings to be erected should be of inexpensive type and material, and that the teachings of experience in other states should be given due regard in determining the size, style and location of the buildings.

It is only necessary to say a few words in regard to the sentiment expressed at the conference concerning these three new departures in the state care of dependents. The committee on diphtheritic antitoxin showed that the state could furnish, through a reliable, non-commercial source, a reliable antitoxin at a cost of 25 to 30 per cent. of the usual price of diphtheritic antitoxin for the prevention and cure of diphtheria among the poor of the state, outside of Chicago. It was the sentiment and belief of the conference that \$15,000 would furnish the remedy for two years at a saving of at least \$100,000 to the state. We believe that this measure should receive the hearty endorsement of the profession.

In 1898 the legislature passed an act establishing a colony for epileptics, but no appropriation was passed to purchase land or organize the colony. It is now only necessary to secure an appropriation as outlined

above. We believe that the medical profession will be a unit in using its influence to secure this appropriation. It is, however, desirable that the proper arguments for its establishment should be used, in reference especially to its economic features. In the first place it is believed by those who have worked upon the subject that the colony should be an industrial one; that farming and the various trades should be taught to the patients so that they may in time become not only self-supporting, but later may leave the colony and make self-supporting and useful citizens; that this purpose may be carried out, it will be necessary that it be understood beforehand that the colony will not be instituted for the care of the epileptic individual who is insane, idiotic or physically incapable of learning how to be self-supporting, in part at least.

The measure would most likely meet defeat if an attempt were made to establish a colony and place in it helplessly sick and feeble epileptics, for the state would be shouldered with an enormous expenditure for the maintenance of such an institution. It is the belief also of those who have worked for this colony that if the state assume charge of the non-teachable and non-supporting class of epileptics it should be in the form of a detention institution rather than that of a colony.

It was also the sentiment of the conference that the establishment of a sanatorium for tuberculosis would not be for the purpose of affording an asylum or retreat for the helplessly sick patient, but that it should be maintained for the care of the tuberculous patient who had a hope of recovery. That such a sanatorium would afford a cure in from 10 to 20 per cent. of cases, and that the disease would be checked and restore a patient to a condition permitting him to earn his living in at least 60 per cent. more. That the educational value of such a sanatorium would be great in affording a thorough training to the patients of the necessity and importance of a generous supply of pure air, of wholesome and properly prepared food, with out-of-door exercise and of moderation and temperance in all of the habits of life. That the patient would continue these habits after he left the institution and would be a teacher in his family and in his community of the hygienic life necessary to escape tuberculosis.

In the past some of these measures have been brought before the legislature by different committees and societies. Usually there has been no coöperation and it has not been unusual to find the advocates of one measure belittling another equally important plan for the improvement of the people of the state. The result has been that all measures have failed. This year these measures have all been brought before the conference of the State Board of Charities and the people named above, and it has been agreed that all concerned will coöperate in asking that these important measures be passed by the next legislature. It is probable that we shall be successful if we can have the coöperation of the medical profession and of all other people interested in these matters. I would suggest that the officers of various county societies bring these proposed measures to the attention of the county societies and that the members

be asked to personally see their state representatives and secure their promises to favor the bills in their passage through the legislature.

Finally, an additional measure which was recommended by the conference involves the inmates of county almshouses. In many counties the insane, epileptic and feeble-minded inmates are cared for in a most primitive manner. In some almshouses these patients are shackled and confined as prisoners, and a passive cruelty is practiced which is medieval. In some counties there are no attendants, and in only one (Cook) is hospital care provided.

It is urged by all who know the conditions that all insane, feeble-minded and epileptic dependents should become state charges, leaving to the county only the care of other paupers.

The medical profession is urgently requested to urge upon their representatives in the legislature the proper legislation to correct the almshouse evils by making the dependents named above state charges.

Very truly yours,

FRANK BILLINGS,
President of the State Board of Charities.

COUNTY AND DISTRICT SOCIETIES

ADAMS COUNTY.

The regular meeting of the society was held November 12, with President Grimes in the chair. Those present were Drs. Ashton, Becker, Blickhan, Christie, Center, Erierson, Garner, Grimes, Germann, Gilliland, Hinton, Hart, Kidd, Knapp, Knox, Koch, Liesen, Lierle, Montgomery, Mercer, Nickerson Pfeiffer, Pitman, Robbins, Rice, Rosenthal, Shawgo, N., Shawgo, J. B., Spence, Schullian, Wells and Williams, J. G. Dr. Mercer of Loraine was elected to membership. Dr. Nickerson announced that the next meeting of the Western Illinois District Medical Society has been secured for Quincy.

The following paper was presented by Dr. W. E. Gilliland of Coatsburg:

PNEUMONIA—ITS PATHOLOGY AND TREATMENT.

You are all doubtless aware that our ancestors of a hundred years ago taught that bleeding was necessary in all inflammatory diseases. In their classification of disease they set apart all diseases accompanied by inflammation and called it the phlegmonous or inflammatory class. For any disease in this class they invariably let blood. They made very careful observations of the behavior of the blood after it was drawn. By these observations they were able to determine whether or not the disease belonged to this class. If it coagulated quickly and firmly, and if the edges separated from the vessel containing it and raised up, forming a cupped surface, allowing the serum to settle beneath and around the clot, it indicated to them that the blood was rich in fibrin, a condition which they considered necessary to inflammations in general. They made this philosophy apply with peculiar force to the disease under consideration. This firm and rapid coagulation of the extracted blood not only confirmed their diagnosis, but gave them the clue to their treatment as well. If the coagula were firm the disease was clearly within the phlegmonous class and the treatment must, perforce, be antiphlogistic; anything else at that time would have been criminal malpractice. I have made these preliminary remarks at this time to get your minds directed toward this highly coagulable condition of the blood as observed by our ancestors. I would not have you lose sight of it, because as you will see farther on, it cuts no little figure in the pathology and treatment of pneumonia.

Statistics clearly show us that the death rate from this disease has steadily increased in the last quarter of a century. This increase must be attributed to one of two causes. Either the disease has assumed a more virulent form, which we are all willing to admit, or the treatment has become less efficient. One or the other of these two conditions must obtain. It certainly becomes our duty to make diligent inquiry as to which of the two conditions prevails; and, if possible, to correct the error.

It matters not whether an inflammation of the pulmonary tissues be caused by the presence of a microscopic germ, from the inhalation of noxious vapors or dusts, or from any other cause whatever, this plastic condition of the blood becomes a very important factor in the development of the pathological condition found in this disease. I imagine that it is next to impossible to have a germ in a case of sthenic pneumonia without this condition of the blood. Now let us consider the pneumonia process.

The inception of the disease is an irritation in one or several contiguous air cells, caused by—no matter what. This irritation invites an increased blood supply to the part, and an increased blood pressure within the blood vessels. This increased pressure causes the transudation of the serum, highly charged with fibrin, into the air cells, where by losing part of its moisture, it becomes tenacious

mucus, discharged with difficulty in the early stage of the disease. But it can not always be discharged, in which case it accumulates until the air cell is not only blocked up, but so distended as to compress the surrounding capillaries. The lung performs one of the most important functions in the animal economy. For the purpose of aeration the blood is carried to it in a voluminous and rapid stream. Any interference with that stream immediately becomes a serious matter. This compression of the capillaries and arteries places a dam or obstruction across this stream of blood; which, like the ice gorge in the river, is subject to a very rapid accretion. As this accretion increases the irritation, the blood supply is increased, not only in quantity, but in the force with which it is supplied as well. This increased blood supply, driven into the dammed up capillaries by the sledge hammer blows of an excited heart, so increases the pressure as to force the red blood corpuscles through the cell walls, and they now appear in the sputa. The increased pressure in the blood vessels so distends them that they become auxiliaries to the air cells in compressing and obstructing other blood vessels; and thus, like the ice gorge in the river, the dam is extended and strengthened.

Right here is where this highly plastic condition of the blood gets in its most destructive work. The blood stream comes to this obstruction. It cannot pass. It backs up behind the dam, like the water in the river behind the ice gorge; and, being brought to rest, it rapidly coagulates as far back as the current has ceased to flow. These coagula are, by the force of the heart, tamped into the capillaries, which, in their turn, compress other vessels and cells. So the disease is extended; and in a surprisingly short time a whole lobe is involved; in a much shorter time than it could be accomplished by any inflammatory exudate.

But there is danger from another source. This is not the only manner in which this disease extends. Go back to the bifurcation of the artery supplying the parts, to where one artery is blocked up with a coagulum and the other filled with living flowing blood. The coagulum projects into this live current. Think you there is no danger of fragments being detached, floating away on the stream, and obstructing other capillaries; and, may not this be the way in which the disease jumps from one lobe to another, until a whole lung is involved? When a whole lung or a considerable part of it is involved, may not this coagulation extend back to where the artery going to the other lung is given off; and may not fragments separate there, float away on the current and embolize the other lung, which would account for the occurrence of a double pneumonia?

We have, then, first, the necessary highly coagulable condition of the blood; second, we have the pneumococcus, producing irritation in the air cells, exciting an increased blood supply to the parts; third, the fibrin bearing serum transuding into the air cells blocking them up; and, by their distention, compressing and obstructing the surrounding capillaries and arterioles, thus forming a dam across the blood current; fourth, a gorge of coagulated blood in the blood vessels supplying the parts which, by increasing the pressure, it compresses other vessels, thus augmenting the obstruction and extending the disease; fifth, secondary infarctions in other lobes formed by detached fragments of coagula floating away on the current to the capillaries, through which they cannot pass, so forming an embolism and starting the same process there, and possibly to the other lung.

In the diseased area the air cells are occluded, either from compression without or from transudates within, except, perhaps, near the border of the diseased area, where the compression is not complete; and from where tenacious serum, mixed with red blood corpuscles, are with difficulty expelled. Behind this, the capillaries and arteries are filled with coagula, tamped in with all the force that an excited heart could exert. This gives us a pretty fair idea of a consolidated or hepatized lung. I shall make no attempt to divide pneumonia into classes. I imagine that the several varieties found by our authors are varieties of degree, rather than of kind. The different degrees of coagulability of the blood, perhaps, has more to do with it than anything else. When the blood is very rich in fibrin we have croupous or fibrinous pneumonia. When it is less rich, and the coagula are so soft as to scarcely occlude the capillaries and the exudates are less viscid and flow-

ing freely, we call it catarrhal pneumonia. Before considering the treatment I wish again to call your attention to this coagulation of the blood in the vessels of the lungs, this veritable pulmonary thrombus. Remember that it is no simple theory. It is the actual condition that confronts us. In it resides the pathological condition we are called upon to treat. In its extension lurks the danger to our patient.

In discussing the treatment we will not take into consideration the idiosyncracies of the patient, the peculiarities of the disease prevailing at any given time nor the hundred and one complications that may arise. Each of these must be considered and met as they arise; nor will we attempt to lay down any hard and fast rules for guidance. We have been taught that the first thing in the treatment of any disease is to remove the cause; and, possibly this is a good rule, but it, too, has its exceptions. In the case under consideration the cause is the pneumococcus; and it is making us a lot of trouble. Let us go after it with all our power. Let us be revenged on him. But before we could reach it with our germicides, this damming process across the blood stream will have jugulated our patient. Jugulation is a germ in which pneumonia holds a strong hand. Besides, if we were to destroy every pneumococcus in Illinois, it would not add one jot or one tittle to the means necessary to the prevention of the extension of the disease or the removal of the obstruction.

Before considering the use of medicine in the treatment of pneumonia, I wish to call your attention to the *Vis medicatrix natura* in this disease. In the beginning the prime factor seems to reside in the abundance of fibrin in the blood. When our patient was taken sick he ceased to eat. There was nothing brought in from which fibrin could be made. While in the active stage he had a high temperature and was restless, both of which caused a rapid consumption of the fibrin on hand. In connection with this a large portion of it was lodged in the coagula in the lungs. Thus our patient, by the processes of nature, has been very rapidly depleted of his fibrin, that so recently threatened his life. Without this *Vis medicatrix natura* it would be next to impossible for any patient with pneumonia to get well.

I have not the least idea that our ancient brethren understood the pneumonic process as I have depicted it to you, but the very first movement they made was toward the reduction of the fibrin in the blood. They bled and bled freely. They bled until a decided impression was made. Theoretically this would appear to be all right. If a patient has ten quarts of blood in his system and you take one out you reduce the fibrin in it by 10 per cent. The immediate effects of this would appear to warrant it, but our patient is approaching a condition in which he will need the rich sustaining elements lost in the blood that has been shed; so that, if you contemplate bleeding, there are some nice points to be decided. My experience with bloodletting in pneumonia is not sufficient to warrant me in expressing an opinion *pro or con*.

In the first stage of a case of pneumonia there are usually two prominent indications to be met. The first is to change the character of the blood, so as to stop the further formation of coagula. For this purpose I know of no remedy that comes anywhere near equaling mercury, preferably the mild chlorid. I would give it freely until the emunctory organs were all active, until the saliva was as limpid as water. You can then rest assured that all the fluids of the body are correspondingly limpid and will flow freely through the capillaries and meshes of the tissues. The action of the mercury will be materially facilitated by combining it with one of the alkalis, soda, at first, and if the pulse begins to flag and a stimulant is indicated, ammonia later. I would push the mercurial treatment until it met the indication, or until I was satisfied that it could not be made to do it.

The second indication is to equalize the circulation. It is a self-evident proposition that when the blood in the entire system is distributed equally to every part there can be no congestion anywhere. The irritation invites an increased blood supply to the seat of the disease. This adds fuel to the first and is to be pre-

vented, if possible. The first thing usually thought of is derivatives, hot pediluvia, hot fomentations, sinapisms, and later, blisters. Our ancient brethren commenced with blisters. But our sheet anchor is quinin, full sedative doses, until we get complete relaxation. When we came to our patient we found him in a high state of tension. He was all drawn up in a knot. Every contractile fiber in his body was upon the stretch. His muscles were so tense that his limbs were rigid and his face was pinched and drawn with an expression of agony. Give quinin until it produces complete relaxation, until our patient lies as limber as the proverbial rag. Our patient suffers quite a good deal, not only from pain in his chest, but from headache and aching in his bones. This is caused mainly by this high state of muscular tension. The muscles themselves ache because of their tenseness; and the bones ache because their ends impinge upon each other with abnormal force. If the quinin alone is not sufficient to relieve this condition we will give him a good round dose or two of old fashioned Dover's powders or some eligible substitute. It supplements the action of the quinin nicely.

At this point it is really interesting to note the effects of the quinin on the sympathetic nerve, which presides over the distribution of the blood. It seems to exercise a kind of paralyzing effect. At any rate the muscular coat of the capillaries are relaxed just as the muscles are relaxed. This allows them to dilate and to give free passage of the blood to every part of the system. This, in part, at least, releases the heart from its herculean task of forcing the viscid, sticky blood through a whole system of contracted arteries and capillaries. We should keep up our treatment along these lines, meeting contingencies as they arise, until we conquer or until we are vanquished.

Frequently there is another indication to be filled in the active stage of pneumonia. The heart gets excited and runs away, acting too strongly and too rapidly so that we should control it if possible. This we can usually do by exhibiting some one of the powerful cardiac sedatives. Some use aconite, some digitalis, and some veratrum viride. I prefer the latter. I have found it one of the most powerful of all the antispasmodics and it supplements nicely the action of the quinin in dilating the blood vessels, which seem so essential in the equalizing of the circulation.

Having conducted our patient through the active stage of the disease, we are still confronted with a problem. The lung of our patient is blocked up with coagulated blood; this constitutes solidification or hepatization of the lung. This solidification seldom goes far enough to compress the nutrient arteries, else we would have necrosis. Nature seems to exercise a kind of protection over these arteries.

The problem now is, to get rid of these coagula so as to open up the lung to both the blood and the air, and allow it to resume its functions. Surgeons, I presume, would want to cut down on them and remove these coagula with a curette. We must content ourselves with a slower, though a much safer method. We will keep our patient in the best possible condition and allow Nature to do the work for us. In removing these coagula Nature does some beautiful work. They were formed when the blood vessels were in a state of contraction, and consequently were slender. Now, in the relaxed condition of our patient, the arteries and capillaries are dilated so as to allow the limpid blood to flow along them beside the coagula. Thus, the coagula are much more extensively exposed to the action of living blood than they otherwise would be. If we have been careful to prepare for this by keeping the blood slightly alkaline, we will be surprised to see how rapidly Nature will do the work. Remember that all alkaline blood will rapidly dissolve coagula.

But you have said nothing about the cough and expectoration. As a rule, if the treatment laid down is successful they will need little attention. If the cough becomes harrassing and a sedative is indicated, some one of the preparations of opium usually answers the purpose, heroin, if preferred. If the sputa are tenacious and expectoration difficult the salts of ammonia are indicated. Their action is facilitated by combining them with syrup of ipecac or wine of antimony. If

the expectoration become so profuse as to be dangerous, which sometimes occurs in the very young or the very old, the problem is rather difficult. I have seen several old persons literally drown in their own secretions, being unable to discharge them. In some cases I have gotten well marked benefit from the use of wild cherry bark, but it is usually too slow for emergency cases. This subject is such a large one that I have been able to emphasize only the important points, and in a disconnected manner.

The paper was discussed by Drs. Nickerson and Robbins and the discussion was closed by Dr. Gilliland.

Dr. Kirk Shawgo read a paper on "Exostosis of the Os Calcis," which was well illustrated by a number of skiagraphs.

In looking up the literature on this subject I am able to find but little mention of it. However, I am of the opinion that exostoses of the os calcis are not uncommon, as I have found three cases within a year, and by being interested in the subject, have heard of many more cases of painful heels that may prove to be due to the same cause. The first case I found was in Cook County Hospital, sent to me for radiographic diagnosis. A man, aged 40, complained of painful heels. Pressure on his heels caused considerable pain. He had been unable to work. He gave no history of injury or illness to suggest a cause. The skiagraph showed exostoses projecting from the inferior surface of the os calcis at the origin of the flexor brevis digitorum and adductor minimi digiti muscles between the outer and inner tuberosity, also projections posteriorly and superiorly, at the attachment of the tendo Achilles. I was not present at the operation, but skiagraphed the feet afterward and found that the removal of the growth had been incomplete. The heels were still tender, but much improved.

CASE 2.—A man, aged 35, stated that he had been unable to work for some months on account of pain, tenderness and swelling of his right foot. As he had a slight degree of flat foot, I had him try wearing an arch, but the relief was slight. He said his heel felt as if there was something in it and he tried to cut it out with his knife. Radiograph showed a sharp exostosis, extending downward from the os calcis between the internal and external tuberosities. Operation disclosed a hard bony spicule, about one-half inch long. This was removed and he is now free from all pain and tenderness.

CASE 3.—A young man, aged 20, had been a cripple for two years; feet tender and swollen. He had been treated by electricity, hot air, massage, bandages, arches and salicylates. X-ray examination showed, in both feet, many bony projections from the inferior and posterior surfaces of the os calcis. Operation confirmed the diagnosis, but failed to entirely relieve the trouble, as a second examination showed considerable roughness still present.

CASE 4.—A young man of 25. He has suffered for two years with painful heels. X-ray shows bony projections from inferior and posterior surfaces of os calcis. Operation refused, so the diagnosis remains unconfirmed.

In none of the four cases is there anything in the past history to suggest a cause, unless it is the history of activity. There was no history of disease of any kind nor any sign of exostoses in other parts of the body. The only suggestion as to etiology seems to be a possibility of strain or irritation at the points of muscular attachment.

Dr. John A. Koeh read a paper on "Elegant Proprietary and Pharmaceutical Preparations."

Adjourned.

GEO. E. ROSENTHAL, *Secretary*.

BI-COUNTY (IROQUOIS-FORD) MEDICAL SOCIETY.

The Bi-County (Iroquois-Ford) Medical Society held its third annual meeting at Watseka, Ill., Tuesday, Dec. 4, 1906. The event was inaugurated by a social dinner at the Iroquois House, at which the local members of the fraternity played the part of hosts and provided for the physical entertainment of the visitors to the best of their ability. All then repaired to the supervisors' room at the

Court House, where the meeting was called to order by President D. W. Miller, M.D., at 2 p. m. The minutes of the last meeting were then read by the secretary. His report for the year 1906, up to, but not including December 4, was accepted and approved as read.

A communication from Dr. Carl E. Black, Chairman of the Council, inquiring if the members were pleased with *THE JOURNAL*, and inviting criticisms and suggestions as to its management was next read and discussed. It was thereupon moved by Dr. S. D. Culbertson, seconded by Dr. S. S. Fuller, and unanimously carried, that the Secretary be instructed to acknowledge the receipt of Dr. Black's courteous communication and inquire if, in the future, selected papers, read by members at meetings of this society, would, upon request, be published in *THE JOURNAL*.

Election of officers was next in order, and Drs. Horace Gibson and S. S. Fuller were appointed tellers. The results were as follows: President: Dr. S. D. Culbertson of Piper City; Vice-President, Dr. T. N. Boue, of Loda; Secretary, Dr. Robert Lumley, of Watseka (re-elected); Treasurer, Dr. Horace Gibson, of Sheldon (re-elected). Censors for three, two and one years, respectively, Drs. D. W. Miller, of Gilman; S. S. Fuller, of Paxton; and J. E. Bundy, of Iroquois. The following applicants were elected to membership: Dr. George W. Ross, of Watseka; Dr. J. C. Bucher, of Piper City; Dr. H. C. Henderson, of Milford; and Dr. J. A. Bundy, of Iroquois.

The papers of the meeting were presented as follows: (1) Traumatism of the Central Nervous System, by Dr. S. D. Culbertson; (2), Multiple Neuritis, by Dr. O. O. Hall, of Milford. Both papers were instructive and interesting, and the discussion was general, spirited and profitable.

Dr. J. L. Shawl, of Onarga, reported a very interesting and somewhat unusual case of hemorrhagic diathesis in the newborn, which brought out a lively discussion in which many participated. Dr. Robert Lumley reported a case of dislocation of the sternal extremity of the clavicle, which had received no attention until two weeks after the accident. A beautifully successful result was secured without cutting-down and wiring, or resorting to any other method likely to leave a scar, which would have been very objectionable to the patient, a young lady. After careful reduction of the dislocation, a dram of alcohol was injected hypodermatically between the articular surfaces of the sternal end of the clavicle and the sternum. A piece of heavy pasteboard was then placed over the point of dislocation and held in place by an ordinary adhesive plaster dressing. In two weeks a dram of alcohol was again injected and the dressing replaced as before. At the end of another fortnight the injection of the alcohol was once more repeated, and, in another two weeks the dressing was finally removed. There was no drooping of the shoulder, no displacement of the sternal end of the clavicle, and no scar.

After one of the most agreeable and profitable meetings in its history, the society then adjourned.

ROBERT LUMLEY, *Secretary*.

COOK COUNTY.

CHICAGO MEDICAL SOCIETY.

Regular meeting held Nov. 7, 1906, with Dr. A. B. Keyes in the chair. Dr. Carl Beck read a paper reporting two cases, (a) Septic Thrombophlebitis; (b), Atresia Ani Vesicalis.

DISCUSSION.

Dr. A. J. Ochsner:—Dr. Beck is to be congratulated on the results obtained in the case of atresia ani, because usually the results in these cases are bad. Either the patient dies after the first operation or after one of the succeeding operations; or, if he survives, the end result may be bad, so that one regrets that the patient did not die. I have never seen quite so good a result as Dr. Beck has obtained in the case before us. I was quite interested a few days ago when Dr. Beck told me

that in two successive cases of thrombo-phlebitis, he had noted this interrupted edema, the edema subsiding, recurring and subsiding. I had seen this condition before, but had not noted the fact of its regularity or irregularity of occurrence. On returning home I inquired of each one of four patients that I have in the hospital now suffering from this condition, and found that in one case there was a distinct intermittence. The patient had a thrombophlebitis of the femoral vein which came on after an injury in the region of the spine of the tibia. The other three cases were infections of the upper extremity, and either the patients did not observe the early edema or it came and remained without any interruption. I have, however, observed this symptom before and from now on I will look for it; but I have not noted any reference to it in the literature, nor could Dr. Beck find any reference. It is a point worthy of notice.

In the treatment of this condition we must remember that in the case of thrombophlebitis in the upper and lower extremities in which the infection originated from a distal infection, the condition advances from a comparatively innocent stage until it may reach the very grave condition which was present in Dr. Beck's case.

These patients make up a very large proportion of all cases suffering from this disease, and it is important to prevent the very serious late conditions described by Dr. Beck, if this is possible. This can be accomplished by securing three conditions by means of our treatment. 1. We must prevent the further accumulation of the infectious material at the point of invasion. 2. We must prevent the progress of this infectious material along the lymph channels and through the veins. 3. We must try to secure what Dr. Beck has secured in these two cases, the change of the lymph current away from the seat of infection in a distal instead of in a proximal direction. The first we accomplish by opening the primary site of the infection. The second we prevent by keeping the affected limb quiet; the third by applying the surgical treatment that was described by Dr. Beck.

Some fifteen years ago I demonstrated to this society that motion in the extremities carried the infectious material proximally. Some three years later my brother observed this condition in a very large number of cases which he observed carefully in the Cook County Hospital, and, since that time, I have had the opportunity of observing this condition in a very large number of cases which we have treated, so that what I have said is based not on theory but on absolute fact.

Take, for example, one of these cases under our care to-day. The patient had two fingers crushed. For two weeks after the amputation his progress was normal; then, suddenly, one of the fingers became swollen, then the other. On the following day, the patient became extremely ill. Drainage was instituted and treatment applied, but the patient's condition became worse. On the third day, the thrombophlebitis had extended to the axilla. The temperature was 103 F.; pulse, 120; the axillary lymph glands were enlarged. The veins were indurated and a broad, red line extended from the hand along the anterior surface of the arm and forearm to the axilla, and the physician in charge began to fear for the patient's life. The patient was probably in the condition in which Dr. Beck's patient was when his axillary glands were removed. When the patient came to the hospital drainage had already been accomplished, but the element of rest of the extremity had not been secured. The patient's hand was being dressed three times a day, and each time that this was done there was applied a certain amount of diagnostic massage, which forced the infectious material up the arm so that, in three days, the patient progressed from a moderate degree to a very severe degree of sepsis. I applied an enormous dressing saturated with alcohol and boric acid, although we now think that water will do as well, so long as rest is secured. The next morning the pulse was 80 and the temperature 99 F. The following morning both were normal and remained so. Of course, if we had continued to massage this extremity two or three times a day, the infectious material would have been forced proximally in such large quantities that a pyemia would have resulted, but with the introduction into the treatment of the principles referred to above, the conditions improved very rapidly, which is the rule in these cases. The same might be true had we removed the axillary glands as was done in Dr. Beck's

case. I would say that what Dr Beck has told us is certainly worthy of our attention.

Drs. E. A. Fischkin and E. C. Seufert reported a Case of Leprosy (See page 25), and Dr. Wm. A. Pusey read a paper on the Frequency of Lepers in the United States and What Shall We Do with Them. (See page 36.)

DISCUSSION.

Dr. Maximilian Herzog:—My stay in the Philippine Islands has given me an opportunity to study some of the phases of leprosy. In Manila there has existed for about two centuries a Catholic hospital, which has always contained a number of lepers. During the time I was in Manila there were always two or three hundred leprous patients there. The American government has now set aside an island, the Island of Culion, on which have been erected a number of buildings, and it is intended to segregate all the lepers there. It is estimated that there are between ten and thirty thousand lepers in the Philippines, and it is claimed by the Filipinos themselves that leprosy is the gift of the Japanese. During the feuds of the tribes, before the establishment of the Togugawa Shogunates, the Japanese sold some of their slaves or prisoners as slaves into the Philippines, and it is also a fact that a Japanese admiral once invaded the Philippines. So that there have indeed been enough occasions for the importation of leprosy into the islands by the Japanese.

Dr. Fischkin believes that his case shows an incubation period of fourteen or sixteen years. I believe that it is a mistake to put the incubation period of leprosy at so long a period because this disease begins very insidiously and may exist for a number of years before it is discovered. It has been said that leprosy probably always begins as a nasal or laryngeal affection. That fact was discovered by Stecker, whose attention was drawn to it by Robert Koch. Stecker was a member of the German plague commission that went to India seven or eight years ago, and he examined the nasal, pharyngeal and laryngeal mucosa in about eighty or ninety cases of leprosy and found the *lepra bacillus* in the majority of them in smears made from the secretion. I believe myself that the view as to this primary starting point of leprosy is correct. I have myself examined a number of recent cases of leprosy or of suspected cases. In every one of them, where I could find any leprous skin lesion at all, I could also show that the nasal mucus contained *lepra bacilli*. It seems to me, from my own experience, that Stecker's claim that leprosy begins as a nasal or pharyngeal affection is correct.

As to the bacillus itself, generally most of the bacilli which we see are granular in appearance, and it has been said, I do not remember by whom first, that such bacilli are probably degenerated and dead bacilli, and I believe that that, too, is correct. In order to explain why I think so, I will now refer to some experiments which I made in attempts to cultivate in pure culture the *lepra bacillus*. From time to time claims have been made that some one had succeeded in cultivating the *lepra bacillus*. Quite a bit of excitement was created in the east two or three years ago by a major in the Indian medical army service. He claimed not only to have succeeded in cultivating the *lepra bacillus*, but to have been able to prepare a vaccine or anti-serum, leprolin he called it, which, when injected into lepers, would bring about rapid amelioration and a cure. We used some of this leprolin in Manila and the result was that we had two postmortems from tetanus. Leprolin has now again disappeared after a meteoric career of one or two years. Quite recently a French investigator working in the Pasteur Institute, devised a method by which he claimed he could get pure cultures of the *lepra bacillus*. I tried the method and found that one can, indeed, get a first generation. The medium to be used is somewhat complicated agar. It is an agar of peculiar composition. This agar is melted and about one-tenth of its bulk of the yellow of an egg is added, the mixture shaken, and allowed to cool. When the medium has solidified one inoculates the tube from a young tubercular leprous lesion, using the deeper layers after removal of the upper strata. After about ten days one sometimes gets a slight growth. I succeeded in obtaining a growth by this method and in it I

found bacilli which stained uniformly, showing that the granular bacilli are probably the old dead ones.

Reference has also been made to-night to attempts to inoculate leprosy into the lower animals. About two years ago a French experimenter claimed that he had produced leprosy in monkeys of a low type. I am sure, from reading his reports, that he had tuberculosis. In view of the fact that animal experiments have proven unsuccessful for a long time, and that Bergh, the predecessor of Hansen in the work on leprosy, inoculated himself and nineteen other persons with leprosy and never produced a case of leprosy, it appears to me that the chance of transplanting the disease easily in the lower animals by inoculation is very small. I have tried such inoculations by a peculiar method, original with me, but also failed to make animals leprosy. Specimens of leprosy skin, with lots of bacilli in them, were enclosed in a collodion sac and placed in the peritoneal cavity of monkeys and other animals. The sacs were left in the peritoneal cavities for about six weeks. After six weeks the sacs were recovered out of the peritoneal cavities. The piece of leprosy skin was removed out of the sac under aseptic precautions, and was next divided into two portions. One was examined to determine whether it still showed numerous lepra bacilli, which it invariably did. The other piece was now implanted under the skin of a new animal of the same species, or was rubbed on the nasal mucosa. The collodion sac method was used, because it gives bacteria a chance to adapt themselves to a certain animal species for which it is not pathogenic, so that it may subsequently become pathogenic. These experiments, however, were negative. I did not succeed in making guinea-pigs, rabbits, or monkeys leprosy.

A word about the treatment. I mentioned the celebrated Rost leprolin treatment, which has collapsed entirely, an English commission having reported that there was nothing in the method. Dr. Wilkinson was for a number of years in charge of the leper hospital in Manila, and he became a very enthusiastic advocate of the x-ray treatment. He treated a number of cases, and two of his cases died, apparently cured. I made the postmortem examination in these cases and found that the skin lesions had healed. I was unable to find in the cicatrices or in any of the internal organs any lepra bacilli. But we must remember that it is not unusual for the disease to come to a standstill; that the bacilli apparently disappear, and perhaps there are some cases which become cured spontaneously. The great danger with claims concerning all methods of treatment in leprosy is that we must not from a few improved cases draw any far-reaching conclusions.

As to Dr. Pusey's paper, I endorse all he said. Leprosy is not a very dangerously contagious disease. I know men in Manila who have lived among lepers for years without contracting the disease. Of course, once in a while a Caucasian, living among lepers, becomes leprosy, but it is also true that in families living together not all of the members become infected. Formerly, it was believed that leprosy was an inherited disease. Now we believe the opposite, and I think there is no case on record of leprosy occurring in a child under five years of age. Intimate intercourse between the leprosy and the non-leprosy is, of course, dangerous, but I have also seen a case where an American married a Filipino from a good family. She, some time after marriage, showed the signs of leprosy, but the husband had, when I last heard about him, not developed the disease. The leprosy woman died during the birth of her first child. The latter did not show any signs of leprosy. I secured the placenta and made many sections, but failed to find any lepra bacilli. However, of course, such a single case proves nothing as to a general rule.

Another thing that has been shown is that leprosy always has a tendency to decrease and finally die out when the hygiene of a country in which the disease has existed becomes better. Leprosy was all over Europe during the middle ages, but it has practically died out there. There is no segregation. Lepers are seen frequently on the streets in Japan, and yet leprosy is decreasing there because the general hygienic conditions are improving. Segregation is, however, called

for where there are many lepers and the disease is apparently spreading. In the moderate zone sporadic cases of persons who can take care of themselves, who are not paupers, do not require stringent segregation.

Dr. David Lieberthal:—I am quite familiar with the conditions in the Baltic provinces of Russia, and I wish to refer to the statement of Bergmann just quoted, that the number of lepers in Riga has considerably increased. Now, this increase is undoubtedly due to an influx of lepers from the neighborhood. Leprosy was endemic in those provinces for at least a hundred years among the poorer classes. Riga is, to a certain degree, the center of this locality and had, up to about twelve years ago, few cases of leprosy. Since then railroads were built throughout this region and Riga became easily accessible. In the eastern part of Prussia, in the city of Mernel and its vicinity, leprosy was unknown about fifteen years ago. Cases have since been observed, and their number has increased. The government erected a home for their segregation. This appearance and increase of the disease was apparently not due to immigration.

I wish to call your attention to a simple and quick method of microscopical diagnosis of tubercular leprosy. If the time is short and the patient objects to an excision, a nodule is surgically cleaned, and pierced with a coarse needle, the blood first appearing is wiped off, the next is caught on a slide and stained with carbol-fuchsin. In the specimen thus prepared are seen groups of very numerous *lepra bacilli*. This method was described and recommended by Tschernogouff in 1896, and I had, in 1898, the opportunity to try it and to find it valuable in one of my cases. I agree with all that Dr. Pusey said in regard to the fear and excitement unnecessarily caused by the appearance of a leper in a community.

Dr. Oliver S. Ormsby:—In the paper of Dr. Pusey, mention was made of the rarity of indigenous leprosy in the United States, except in the State of Louisiana, where the disease has long existed. Reference was made to the case exhibited by me before this society about two years ago, a report of which was made later in the *Journal of the American Medical Association*. This case was one of the tubercular type and occurred in a Norwegian, aged 25 years, born in the State of Iowa, and living later in Nebraska. He had never been out of the states mentioned until his trip to Chicago. His case was, therefore, a true indigenous one. I am convinced from the history in this family that the father of this patient as well as one sister succumbed to the same disease. It seems probable that the disease in this family was contracted by the father in Norway and imported by him.

Relative to the period of incubation, a case I had this summer is of interest. The patient, a woman, had lived in this country for about twenty-four years. She came from Norway and lived on a farm in the State of Illinois. About five years ago the first departure from her usual good health occurred and two years later lesions began to appear on the skin. It was, therefore, about nineteen years after her departure from the probable place of infection that the disease became manifest. It may be that the good hygienic surroundings and healthful climate here held the disease in abeyance.

As to the demonstration of the active cause of the disease, I might say that in all of the cases of tubercular leprosy that have been observed in the office of Dr. Hyde and Dr. Montgomery during the past five years, we have been able to demonstrate the bacillus of leprosy in the nasal secretion or from the secretion from ulcers on the palate within a few minutes after the first appearance of the patient in the office. We have also demonstrated them in secretion taken from the nodules, in a manner similar to the method mentioned by Dr. Lieberthal.

Concerning social position, the disease, as seen here, occurs almost entirely in people who are foreign born and in a class of patients that are not high in the social scale. Exceptions occur, however. Recently a case occurred in the practice of Dr. Hyde and Dr. Montgomery in a man of good family, born in New England, well educated, and an engineer by profession, but he had spent some years in Mexico, where he probably contracted the disease. He was a typical tubercular case of severe grade. We have treated two cases with x-rays and noted marked improvement in all local lesions treated, but, as yet, no marked general improvement has been observed.

Dr. E. L. McEwen:—I was very much pleased to have Dr. Pusey state that he did not regard leprosy so dangerous to the community. I presume that all medical men understand that fact, but nevertheless the laity remains desperately afraid of leprosy and we have something of a duty to perform in attempting to educate the people not to fear the disease.

Dr. Fischkin, closing the discussion:—Dr. Pusey's paper was timely and full of information. It will serve to instruct the profession and to educate the laity, and will prevent such occurrences as we have read in the newspapers, which are a shame and a disgrace to the American public. The fear of leprosy is an inheritance from the medieval ages. It is surely true that leprosy is not the scourge which it is pictured. It is less dangerous than tuberculosis; less contagious than syphilis. Still, it is contagious, and an element of danger, and society is right to require protection of the medical profession. It is more dangerous in Chicago than in other American cities with less crowded districts and more hygienic conditions. Even sporadic cases are here an element of danger. Chicago has more Norwegians than Bergen and more Russians than Mitau or any other town in the Baltic provinces where leprosy exists. All these people are living under such conditions as to be susceptible to leprosy, so that one sporadic case in Chicago is really more dangerous than it would be in Boston, because the patient lives among the same people and under the same conditions that he does at home, and for this reason, something ought to be done in Chicago. Each single case offers an insoluble problem to the physician; what shall he do with the patient? He cannot treat him at his office and cannot send him away, because no hospital will accept a leper. The public hospitals, at least the County Hospital, ought to accept these cases, and not only accept them, but treat and cure them, that is, they ought to be equipped with all the facilities for their treatment, for, otherwise, the patients will not go there and will try to hide themselves in the crowded districts, and so will continue to be a danger to the community.

Dr. Seufert, closing the discussion on his part:—As to the method described by Dr. Lieberthal, it will undoubtedly hold good for nine-tenths of the cases, but, at the last International Congress of Dermatology, cases of leprosy were reported in which no bacilli could be found by this method; therefore, I think that in such cases, at least, the procedure would not be of any use whatever. It would be absolutely necessary to examine the nodule microscopically.

Dr. Pusey, closing the discussion:—Replying to Dr. L. H. Montgomery's question, I do not know how many lepers there are in the Sandwich Islands. There are a great many of them, but no inference can be drawn from the spread of leprosy there. As I have said before, the Sandwich Islanders are, apparently, as regards their susceptibility to infection, the guinea-pigs of the human race.

As regards Dr. Herzog's remarks about inoculation of monkeys, I was not referring to the monkey inoculation of several years ago, but to some work of which I saw an abstract in the *Journal of the American Medical Association* a few weeks ago. Remembering, however, the fact which Dr. Herzog has again emphasized, of the failure of inoculation experiments in men, I believe he is right in doubting the possibility of inoculating anthropoid apes.

Meeting of Nov. 14, 1906.

A regular meeting was held Nov. 14, 1906, and in the absence of the President, Dr. F. A. Besley occupied the chair. Dr. Joseph Price of Philadelphia, Pennsylvania, read a paper, by invitation, entitled "The Importance of Specialties in Educational Success." (See page 21.)

On motion of Dr. Fenton B. Turek a rising vote of thanks was extended to Dr. Price for his interesting and instructive paper.

Dr. Fenton B. Turek read a paper entitled "Meat as a Food in Health and Disease." Dr. Ralph W. Webster followed with a paper on "Metabolic Aspects of Overfeeding and Underfeeding." These papers were not discussed. On motion, the society adjourned.

DEMONSTRATION OF THE BLASTOMYCETIC ORGANISM IN SPUTUM.*

ANNA ALBERS.

Assistant in Pathology, Illinois Medical College,
CHICAGO.

The sputum of this case was sent to Dr. W. Lumsden, of Clayton, Wis., for examination for tubercle bacillus. Two samples have been received; the first was a morning sputum, which was bloody and of a very tenacious character. The second specimen was a day sputum, which was not tinged with blood and was quite watery. Neither specimen contains tubercle bacilli, but I found the blastomycetic organism in almost pure culture. Expectoration is more profuse in the morning.

Dr. Lumsden forwarded the clinical history as follows: Male, aged 64; nationality, Scandinavian; occupation, farmer; married. Had three children, of which two died several years ago of pneumonia and septicæmia. On further inquiry, the children had small pustules over the entire body.

Subjective Symptoms.—Patient was well and healthy until the beginning of July, when present trouble gradually developed. He complains of pain in chest and abdomen, not severe but annoying, dry sore throat and annoying cough accompanied by dyspnea, continuous loss of strength preventing him from working. Appetite poor.

Objective Symptoms.—Face pale and emaciated. Tongue coated with a thick white fur. Eyes normal, conjunctiva anemic. Skin pale and flabby, with some eruptions scattered over the body, which are a trifle larger than an ordinary pimple. They are slightly raised with an hyperemic area around them. The chest is flat, with marked depression of supraclavicular spaces. The expansion is much below normal. Dr. Lumsden failed to find any pathological physical findings in the lungs. The heart sounds are scarcely audible and the apex beat appears to be most distinct a little to the left and below the nipple. The heart gave the doctor the impression that it was laboring in a sack of fluid. The pulse is weak and irregular. The temperature is normal.

This case is of importance from an etiological standpoint. The question arises whether he acquired this disease from his children, and if so, how? On account of the short time since the arrival of the sputum and clinical history, it has been impossible to get further details regarding the patient and, therefore, this short paper must be considered as a preliminary report.

Dr. Ormsby, of this city, was the first to demonstrate this organism in sputum. As regards the number of cases that may occur in one family, we find an interesting report in the *Annals of Surgery*, November, 1904, in which we find a report of three cases of blastomycosis in one family. The first case was a girl, 17 years of age, who met with a runaway accident. Double infection with bacillus pyocyaneus and blastomycosis followed. The mother developed abscesses, eight months later, in various parts of the body. The brother developed an abscess on the hip, about same time, which also contained a pure culture of the budding form of the organism. The question again arises, how was the disease spread in these cases?

Meeting, Nov. 21, 1906.

A regular meeting was held Nov. 21, 1906, with the President, Dr. George W. Webster, in the chair. Dr. Joseph A. Blake, of New York City, read a paper, by invitation, entitled "The Treatment of Diffuse Suppurative Peritonitis." (See page 9.)

DISCUSSION.

Dr. John B. Murphy:—I have been very much interested and instructed by Dr. Blake's paper. I have been aware of his method of practice, as well as the method

* Read before the Chicago Pathological Society, Nov. 12, 1906.

of practice adopted by his colleagues in New York; and the results which he has obtained are certainly very good and striking. The class of cases included in his paper covers practically all of the varieties of general peritonitis; the term used as diffuse peritonitis means a peritonitis involving a large portion of the abdomen around the point of primary infection, as well as far beyond, with no circumscribed adhesions. It is difficult for us to arrive at a definite standard as to what should be included in the term diffuse or general peritonitis, and statistics for a long time will be hampered by divergencies in this particular. We have this great satisfaction, however, that in the last five years the opinion of the medical profession as to the outcome of a perforative or general suppurative peritonitis has been completely changed. I remember, in a discussion in 1896, in this city, before the American Association of Obstetricians and Gynecologists, it was the agreed opinion of that organization that practically all of the cases of general suppurative peritonitis would perish. During the following five years there was a noticeable change in that opinion, and later, in the last five years, it has come to be the opinion of the profession that when a case of general suppurative peritonitis, perforative, but not of the traumatic or gunshot variety, dies, it has been through some sin of omission or commission. Think of that great change in opinion, based on facts, in such a short period of time! And we are justified in assuming that death is due to some mismanagement, when we have such an array of statistics presented here to-night showing the splendid results obtained by the treatment that has been followed by Dr. Blake and his colleagues. When we take into consideration the number of cases he has reported, mostly from an ambulance service, and many of them must have been seen late, we have a more favorable idea of the possibilities in general suppurative peritonitis. Why do patients with general suppurative peritonitis die? Why should they not all get well? They should all get well. They will practically all get well.

We find very much in the literature recently concerning the types of infection; much attention having been given to this phase of the subject, and great stress has been laid on the fact that certain types of infection will terminate fatally. I believe there are occasionally such malignant types of infection that they will terminate fatally, regardless of treatment; yet, from a practical standpoint, we have the same types of infection in the peritoneum from the alimentary tract now as we have been having for the last twenty-five years. Still, our results have very markedly changed in that a former mortality of 95 per cent. has been reduced to a mortality of less than 5 per cent. And that has not been because the types of infection have changed, but it has been because the time and method of treatment have changed. It must be borne in mind that the range or virulence of infection from the alimentary canal does not change as surface infections do, as the great bulk and variety of virulent micro-organisms are destroyed in the upper digestive tract.

If we had time to go into an analysis of the causes of death from general suppurative peritonitis, we would have to consider the element of peritoneal absorption. If we draw a line across the peritoneum on a level with the umbilicus, we will find that the lower half, the portion extending down into the pelvis, has very little or practically no power of absorption, as long as its endothelial cells are intact; while we take the upper portion of the peritoneum, i. e., the diaphragmatic zone, we will find that here practically all of the primary absorption takes place; this area includes the omentum, which passes down over the surface. These are the two sources of primary absorption, and as soon as infective material is poured into the peritoneal cavity, it is taken up by the upper half of the abdomen and by the omentum; but if we allow that septic material to remain in contact with the peritoneum of the lower half of the abdomen for any length of time, while there are no stomata to absorb it as we formerly believed (which has been demonstrated beyond question), the infective material finally destroys its endothelial cells, denudes and blisters it, and thus produces an absorbing surface. In the lower portion of the peritoneum, the number of subendothelial lymph spaces is small, and there is very little absorption, but, as we advance upward, they increase in number and, proportionately, in absorptive power. When pus blisters the peri-

toncal surface and destroys its gloss, it takes off the endothelial cells, the shingles of protection, so to speak, and, from this blistered surface, absorption goes on rapidly. The element of absorption and the position of the infection are important, as well as the time of infection. When infective material is admitted into the peritoneal cavity, nature commences to set up a means of defense. What are nature's means or lines of defense, and in what way can we aid her? These are the questions that must be asked, in order to establish a definite plan of treatment. We must understand the methods of absorption, what nature is doing, and then see what we can do in addition. Immediately after the ingestion of infective material, if it is the ordinary pus micro-organism, there is an increased secretion, a transudation of fluid, and with that we have two types of lymphocytes, the larger macrophages and smaller microcytes, and these two seem to be essential for the removal of that infective material. It has been shown by Buxton and Torrey that the larger lymphocytes take up the living micro-organism that they are unable to destroy, but that if the smaller lymphocytes grasped the micro-organism and held it first, the smaller was taken in by the larger lymphocytes and at once destroyed. This means that we have at once instituted in the peritoneal cavity an effort at immunity, which controls it for a limited period of time only. After a short time the lymphocytes become gluttoned and cease to have this power, and are rendered inert. When the infection has remained for a period of time the defense is formed, a local infiltration of the peritoneum with edema. The local edema and infiltration are defensive here the same as in infection in any other portion of the body. It is nature's means of clogging the lymph spaces and stopping absorption everywhere, and the peritoneum is no exception. You doubtless remember the experiments that have been made, where the staphylococcus albus was injected into a rabbit's peritoneum, and after twenty-four hours injections of the colon bacillus were made and all of the rabbits recovered, as a local immunity, by the infiltration and edema, and hyperleucocytosis had been produced. When the colon bacillus and staphylococcus were injected at the same time, absorption and destruction of the peritoneum took place rapidly and the rabbits all died. I believe these experiments have an important bearing on this subject, as brought out by Dr. Blake's paper, namely, that where we have a circumscribed inflammation in the abdomen, as, for instance, in the appendix, we have always a large quantity of milky intraperitoneal fluid. It was found by Sargent, in his examinations, that this milky fluid contained a large number of staphylococcus albus, which we believe prepares the peritoneum, so that when the appendix ruptures into the peritoneal cavity, some preparation has been made for it by nature; a local immunity has been created, retarding the absorption. But where we have a typhoid perforation to deal with, which occurs in a zone in which the colon bacilli are so numerous, we have no preparation made for these germs; we have no local immunity engendered, and that is why in the latter disease a great fatality occurs, when a sufficient length of time is permitted to elapse before the peritoneal cavity is opened and drained.

Gravity has been decried considerably in peritonitis recently, but it does influence the point of accumulation of the products of infection in the peritoneal cavity, which can be demonstrated in every case of peritonitis, whether it originates from perforation of the duodenum, stomach, or the appendix.

It will be four years the coming February since we began to follow out our present line of treatment in general suppurative peritonitis. In the latter we include only cases of direct perforation of the alimentary canal into the free peritoneal cavity. Cases of circumscribed abscess, with pus in the peritoneal cavity in large quantities, are not called general suppurative peritonitis from perforation, and are not included in the list. If we have an ulcer of the stomach, an ulcer of the duodenum, a typhoid ulcer, or a lesion of the appendix, with direct perforation into the free peritoneal cavity, we consider it a general suppurative peritonitis of the perforative variety, and of that class we have had 38 consecutive cases in three years and nine months, with one death. In these 38 cases, we followed the same line of treatment, namely, that of rapidly opening the peritoneal cavity, closing the opening in the viscus, whichever one it was; removing the appendix,

if it had perforated, relieving tension by drainage, and getting out as quickly as possible; neither manipulating, sponging, nor irrigating the peritoneum.

The element of time in operating is of great importance; the element of manipulation and handling of viscera is of still greater importance, because, in the early stage of peritonitis there is a slight exudate covering the bowel which is protective, but if we scrape off that exudate, take off that endothelium, we have a blistered surface for absorption. After closing the opening, we introduce a tube so as to relieve pressure, carrying out all the details of treatment which I will mention later. All of the thirty-seven patients went on to a good recovery. The cause of death in the one fatal case was double pneumonia, which occurred six days after operation for general suppurative perforative peritonitis. The recoveries of some of the cases were not smooth. We had four cases of ileus. In three of them we operated. We had five cases of secondary abscesses in divers positions in the abdomen which had to be subsequently opened and drained, making considerable complications. Notwithstanding our results I do not wish to be understood as objecting to Dr. Blake's method of flushing and closing the abdomen. For the present, however, and as long as we continue to have such favorable results, I feel that we cannot give up drainage. I feel in this type of infection the same as in types of infection in the cellular tissue, that the element of pressure tension is an enormous one in the necrotizing and absorptive effect of infection. If we have an acute infective osteomyelitis within the lumen of the bone and we merely tap it without taking out the pus, but relieve the pressure, absorption and destruction cease and the pathologic condition immediately improves. A dentist will tell you the same with reference to a tooth that is causing trouble. The tension on pus must be relieved. You all know the significance of this in circumscribed abscesses of the cellular tissue type with phlegmon; you merely open the abscess, you do not wash it out to remove pus. The element of pressure is therefore of great importance; the drainage tube maintains a low pus tension and should be used.

How long does such a tube in the peritoneal cavity drain? I have seen pus coming out of the tube for three or four days after its introduction. But that is not material. In the ordinary cases, the colon bacillus type of infection, as soon as the abscess is opened and drained, or the appendix taken out, or the opening communicating with the lumen of the intestine closed, we have a rapid subsidence of the secretion with or without washing.

We come now to the consideration of why cases of general suppurative peritonitis die? Because the infective material gets into the peritoneal cavity? Not at all, but because the infective material is not let out of the peritoneal cavity within a reasonable length of time, and when, as a medical body, we learn to remove that pus from the peritoneal cavity or relieve its tension within a reasonable time, then we will cease to have mortality from general suppurative peritonitis. When the peritonitis has existed for a time and the patient is exhausted or intoxicated from the overdose of poison that he has taken into his tissues, the same as if he had taken an overdose of some alkaloidal poison, what can we do to counteract the effects of that intoxication? I agree with Dr. Blake that enteroclysis is of the greatest importance. I believe it is more important in tiding these patients over the immediate, apparently fatal, toxic effect of the material that is in the blood than any other one thing; and the quantity of saline solution we can succeed in getting these patients to absorb through this channel is remarkable. They will absorb from twenty to thirty pints in twenty-four hours for three or four days, if it be properly given. For instance, a child, 14 years of age, took thirty pints of saline solution each twenty-four hours for four days and retained every drop of the solution. It eliminates the immediate poisonous effects. Why or how this is accomplished we have no theory. But we have the incontrovertible clinical fact that it does. If the abdomen is opened below, the communication with the intestinal tract is closed and the work is done in a short time without manipulation, as shown by Dr. Blake's results, and without irrigation as shown by mine, the patients will get well, providing the operation is timely.

Dr. A. J. Ochsner:—It is a great pleasure as well as a privilege to have Dr. Blake with us. I have personally observed his work in his clinic and have followed his writings for a number of years. No one who has seen Dr. Blake at work can have any doubt about his surgical judgment. What he has to say on any surgical subject has a great amount of weight and value. It is work of this kind, and work of the kind that Dr. Murphy has just described, that we must look to for advancement and benefit in the treatment of this pathological condition. This does not mean that the advancement we have made in the way of prophylaxis should be abandoned. Although we are now able to relieve the condition in many of these cases, so that the outcome is favorable, this should not prevent us from being quite as insistent in preventing diffuse suppurative peritonitis as before. I believe that the mortality in the future will continue to decrease because of these improvements in the treatment as well as because the necessary steps are taken in a prophylactic way to prevent diffuse peritonitis. In infection of the peritoneal cavity we have, as Dr. Murphy has remarked, precisely the same condition that we have in an infection anywhere in the body, and the same principles must be employed in our treatment..

If we have an infection in one of the extremities, for instance, we see to it, first, that we get rid of the source of the infection; second, we prevent the forcing of infectious material in a proximal direction by placing the part absolutely at rest; and, third, we favor the flow of the lymph away from the body by making incisions and applying large moist dressings.

Precisely the same conditions obtained in peritoneal infections. Every one who has a large experience in these cases knows that in perforative peritonitis, in perforation of the stomach, in perforation from typhoid ulcer, if we operate on the patient at the time when the infection which has already occurred can be removed at a time when the infectious material has not been distributed, or has not been carried in quantities to a great distance from the original point, then a favorable outcome may be looked for. The same patient, twenty-four hours later, when the late effects of the injection have occurred, is likely to die, not from the original infection, but from general sepsis, precisely as he would if he had a pyemia from any other cause, precisely as he would if he had the poison of a tarantula carried through the entire circulation.

The second step that must be accomplished is a change in the current of the lymph away from the other portions of the body that are still prepared to oppose the infection, and that, I believe, can be accomplished most satisfactorily in the way described by Dr. Murphy and Dr. Blake.

In following these directions it is, however, important that they be actually followed. It is an easy matter to change a relatively simple peritonitis into a hopeless one by disregarding the very tersely stated plan described by Dr. Murphy, "Get in quick and get out quicker." It is equally important to follow accurately the manner described for supplying fluid by exceedingly slow, non-irritating rectal injection of warm normal salt solution.

I believe that it is important to prevent the distribution of the infectious material from any given point in the peritoneal cavity by preventing the peristaltic action of the intestines in carrying it to various portions of the cavity by the use of gastric lavage, and by absolutely prohibiting any form of nourishment or cathartics by mouth. It is not necessary for me to speak of this phase of the subject at the present time, because I have spoken of it so often that it has become an old story. But, in my personal experience, that element is an important one in prophylaxis as well as in after treatment after peritoneal drainage has been established.

I have had the histories of my cases of diffuse suppurative peritonitis classified, but I will not speak of them at present, because, in comparing results from treatment, I believe that personal results are of far greater importance than a comparison of the results of one surgeon with those of another. I believe that Dr. Blake's comparison between the results obtained in his early cases and those obtained in his late cases is far more valuable than it would be to compare his results with those of Dr. Murphy, for instance, because all the cases are looked

upon in the same manner. One has the same view of the same class of cases, and in using a certain form of treatment in a series of cases of a given kind, the surgeon of large experience forms a conclusion as to the value of a particular form of treatment in this particular form of disease, and he compares the results both under the former and later methods of treatment; while comparisons between the results of various surgeons cannot have this element of uniformity.

We will have to continue our observations in this work. There are in this country and other countries many men who carry on their observations honestly, as Dr. Blake has done, and ultimately we must come closer and closer to the desired result. However, of one thing we can be certain, that in cases of diffuse peritonitis in which there is a general sepsis, in which there has been a destruction of the protective peritoneal tissues, and in which there is a great surface for the absorption of septic material, without the necessary opposing elements, there will always be the requisite opposing elements, so that each one of these cases would resolve itself into an abscess which, no matter how large it may be, is one of the simplest conditions to cure. There is great hope in all cases in which an antitoxin seems to form spontaneously and it is to be hoped that in time we may learn to produce this artificially by proper treatment.

Dr. Arthur Dean Bevan:—I have been very much interested in the presentation of the treatment of diffuse peritonitis, as given by Dr. Blake and by Dr. Murphy, because it has appeared to some of us that they represented two absolutely different principles of treatment. I was impressed, in reading Dr. Blake's work, with the idea that he treated diffuse peritonitis with flushing and without drainage; whereas, Dr. Murphy in his treatment of the disease has secured his results by drainage. I have had a more limited experience than either of these gentlemen in the treatment of general suppurative peritonitis; but, within the last three or four years, we have had in my service possibly eighteen or twenty cases. I have not looked up the statistics, but we have been able to save most of them. Formerly we lost most of them.

In hearing the work that has been presented to-night, and in analyzing many of the cases, I am impressed with one fact, that the important reason of our being able to save more cases of general peritonitis than we used to is that we remove the primary focus of the disease, or, at least, prevent any further leakage. I think the essential point is preventing any further leakage of continued infection of the peritoneum. I am rather inclined to think that the secondary point, which is handled very differently by Dr. Murphy and Dr. Blake, is the removal of the material which is already in the peritoneal cavity. Dr. Murphy introduces a tube and lets it run out; while Dr. Blake washes it out. I do not think there is a very great deal of difference in their results. I think, when we analyze the facts, we will be able to see the reason of our improvement in the treatment of general peritonitis to-day over that of five or ten years ago. Now, in these cases we recognize the condition; we stop the continued leak which produces the infection, and we allow, in either one way or the other, the escape of the noxious material which is already in the peritoneal cavity.

There is one point which has been of a great deal of value to me; I don't know who was the originator of it, namely, how are we going to tell whether we have a case of general peritonitis or not? We operate upon a case of appendicitis and we come down to a gangrenous appendix, with perforation and we find very little fluid about it. How do we know whether we have a general peritonitis or not?

Recently, we have been testing the peritoneum with a glass tube. We take a female catheter and introduce it into the cul-de-sac of Douglas just as we would a pipette, in drawing out some urine. After it is put into the cul-de-sac of Douglas the thumb is put over the opening and the catheter drawn out. Frequently, we will draw out in the ordinary glass catheter five or six ounces of pus in the cavity. If there is a dram in that cul-de-sac the catheter will take it up, and it is very interesting to see how differently pus is located. In the ordinary case, with a moderate amount of fluid, we find pus in the cul-de-sac. With the presence of considerable fluid, you put the catheter across to the other side of the pelvis or

even towards the spleen, and test the general peritoneal cavity in this way; you can pick up pus with the glass pipette also, and can determine whether you have a general peritonitis to deal with or not.

Personally, I have used a scheme which is a combination of the methods presented by Dr. Blake and Dr. Murphy. We have stopped any further leakage, whether it has been from a duodenal ulcer, a gastric ulcer, or a perforated appendix, by treating the lesion with an invagination suture, usually with purse-string suture. We have then tested the general peritoneal cavity, determining whether we have had free pus in the peritoneal cavity or not. We have made a small counter-opening over the bladder, that is, at the lower portion of the abdomen, making about an inch incision, and then putting a large glass tube in the cul-de-sac of Douglas. I have not used the return tube of Dr. Blake. We introduce another glass tube through the lowest part of the appendix incision in an appendicitis case, or, if it has been a duodenal ulcer, through the midline incision, and with a large amount of salt solution, we wash out the free general peritoneal cavity until the water returns clear. Then, we have used drainage, but not tubular drainage. I have been opposed to the use of tubular drainage, possibly without just foundation; but we have used simply gutta percha drains and have been very much satisfied with them. A gutta percha drain is inserted at the lowest point in the appendix wound, after the closure, in one of these cases of general suppurative peritonitis, and another in the cul-de-sac. Usually, the drain in the cul-de-sac never drains. That is a singular thing. As a general proposition, I think in 8 or 9 cases out of 10, there will be no pus come from the cul-de-sac wound. Occasionally, however, the cul-de-sac will drain for days or weeks. We had one case of duodenal perforation in which there was drainage for three weeks before there was complete closure and recovery. The gutta percha drain over the primary focus, if that is the appendix, remains but a few days as a rule.

I think we are all indebted to these gentlemen for this very interesting discussion. Certainly, no more gratifying observations have been made by surgeons in the last ten years than in the great and splendid change that has taken place in the successful treatment of general suppurative peritonitis.

Dr. Daniel N. Eisendrath:—A point has been brought out by Dr. Bevan, which, I believe, deserves some further discussion, and that is this: About a year ago I presented 3 cases of diffuse suppurative peritonitis before this society and was taken to task when I said they were cases of general suppurative peritonitis following perforation of the appendix. The question was raised how could I tell whether these cases were instances of general suppurative peritonitis or not? One gentleman who discussed the subject at that time said that we mean, that, so far as our knowledge which is gained through an incision is concerned, there ought to be pus in every portion of the general peritoneal cavity. A letter written by Dr. Baldwin, of Columbus, recently appeared in the *Journal of the American Medical Association*, discussing this subject and asking Dr. Murphy a question. Dr. Baldwin takes the position that we ought not to call these cases diffuse, septic, or general suppurative peritonitis, unless they involve every portion of the general peritoneal cavity.

I regard that as mere quibbling, and something which will probably hinder progress in this direction in which we have made such wonderful headway in the last five years, as these statistics that have been presented show. I think we ought to adopt a definition somewhat like the one given by Dr. Bevan. When we have a perforation of some hollow viscus, with pus diffused in the peritoneal cavity in the vicinity of that viscus, so far as I can see, we should call it a case of diffuse septic or suppurative peritonitis.

Dr. Blake has called attention to something which I have had occasion to observe in two cases of this variety, and that is, that we have diffuse septic peritonitis without any gross macroscopic perforation of the appendix. That has been my experience in two cases in which there was no question about the quantity of fluid in the peritoneal cavity, and yet, so far as I could see, there was no visible

perforation. In all probability, perforation had taken place through the lymphatics of the appendix.

Another point which has been brought out and which, I think, is well worthy of mention, is the character of the drain. It has been shown by some experimenters in Boston, whose names I do not now recall, that the average time during which the peritoneal cavity will allow of drainage is three days, so that the drains which we insert do not do much good after this length of time, and I believe the drains which we use should be as small as possible and do as little harm as possible.

The reason why we have made so much headway in the treatment of this condition has been due largely to a minimum amount of interference, and probably on account of the fact, which Dr. Murphy brought out, that by the lymphatics we drain toward the point in the pelvis through the Fowler position, giving nature a chance to take care of what pus there is already present in the general peritoneal cavity.

At the Michael Reese Hospital, we have made a modification of the method of applying the Fowler position which, I believe, is well worth speaking about. We have accomplished much better results by the use of a little apparatus which was designed by one of the head nurses, and which secures practically an elevation of the bed at an angle of 45° by means of a little rest which can be adjusted to different angles by means of screws. In that way, we get efficient drainage; the patient does not keep losing his ideal drainage position, and the results are far more satisfactory.

With reference to the treatment of the advanced cases, if we see these patients on the fourth or fifth day, when vomiting is incessant, pulse ranging from 130 to 140, with marked tympanites, they are as well off without as with operation, and, if we can secure localization of the pus, they will probably do as well without as with drainage.

Dr. M. L. Harris:—This subject is so extensive and of such great importance that it will bear a little repetition and further discussion. Peritonitis is serious or dangerous in inverse proportion or ratio to the rapidity and extent with which the peritoneum forms plastic exudate. When we have a case of peritonitis that has started from a local point of infection, and the peritoneum in advance of that infection builds up a barrier of plastic exudate, the patient ought to get well and will. If, however, about this local point of infection no plastic exudate is thrown out or furnished by the peritoneum, that case is, from its inception, one of diffuse peritonitis, potential or in fact; whether half of the peritoneum is involved, one-quarter or three-quarters is absolutely immaterial. It is a potential, diffuse peritonitis from the start, so long as the peritoneum fails to limit it by plastic exudate.

The improved results which we have obtained by our modern methods of treating these cases of diffuse peritonitis are due to getting rid of the infection and preventing its extension. We do this by quickly opening the peritoneal cavity, thus relieving one of the elements which produces the extension of the infection, namely, tension, just the same as we do when we relieve the tension in any abscess.

Some years ago, I made a number of experiments on the absorbability of the peritoneum by putting into it salt solution of varying concentrations, putting in a definite amount, allowing it to remain a definite length of time, and then removing the fluid to see how much I could recover. When the fluid was hypotonic, it was absorbed very rapidly, and when it was of low enough concentration, after a definite length of time I found that the fluid had almost entirely disappeared. As the concentration arose, we would get back an increasing amount of the fluid that was put in, until I could get out more fluid than I put in. The experiments showed that the peritoneum would rapidly absorb hypotonic fluids, but fluid passed in the opposite direction when we injected hypertonic fluid.

Dr. Blake has said that he drains in order to remove what cannot be absorbed. I do not think he will stand by that statement entirely, because another object in draining is to drain what would be toxic, if absorbed. One should drain the

peritoneal cavity because if the infectious material is absorbed it might kill the patient. I would add then to Dr. Blake's statement that we drain not only for the purpose of removing what would not be absorbed, but also to remove what would be toxic should it be absorbed.

The two elements which contribute most to our modern success in treating peritonitis are a quick operation, with removal or repair of the point of infection, the little time occupied in getting out the fluid, relieving tension, putting the patient in a position where the fluid that is not let out immediately will run down into that portion of the peritoneum where it is removed by means of a tube with the least possible absorption.

Dr. D. W. Graham:—I am afraid to say much on this subject lest I say too much. The paper and discussion on it have been very interesting to me; but I do not think I can get such results, for instance, as Dr. Murphy reports, namely, 37 recoveries out of 38 cases of diffuse suppurative peritonitis, whatever the cause.

I must take issue with Dr. Murphy when he says that the type of inflammation makes no difference, because I think we must take into account the virulence of the inflammation in making a prognosis and in getting results. whether the inflammation be in the abdomen or in any other part of the body. We have, for instance, a virulent type of inflammation in the skin. We have the mildest type of inflammation in the skin. We have the same degrees of difference in the peritoneal cavity. We have virulent and mild infections of the peritoneum. The mild infections of the peritoneum, if they are properly treated, or even if they are moderately treated, will give us good results nearly every time; whereas the virulent infections, in the majority of cases, will lead to a fatal termination.

Now, I do not want to find fault with Dr. Murphy's statistics; but we know that the Doctor is given to hyperbole at times. I would like to have him tell us why he was so lucky in getting 37 recoveries out of 38 cases of diffuse suppurative peritonitis. What did you do, Doctor, with the others? A surgeon who is doing a general surgical practice, seeing cases in hospitals and in private practice, certainly gets cases that are in a very bad condition when he first sees them. Does Dr. Murphy count those cases? Does he refuse to operate on that class? That is the impression that is going to go out unless he tells us distinctly the class of cases he has treated. I do not think it ought to go out from this society, without some qualifications, that any man can treat 38 cases of diffuse suppurative peritonitis and have 37 of them get well. I must speak plainly, because there are two ways of accounting for such results, and that is the Doctor either declined to operate on some of the bad cases and did not count those, or else he has a definition of diffuse suppurative peritonitis which differs from that of most surgeons; or else, third, he has been exceedingly fortunate in getting 38 cases of the mild type of general diffuse peritonitis—one of the three things.

Dr. John B. Murphy:—I am very pleased to have the opportunity to answer my colleague, Dr. Graham. He is one of the class of objectors we have had in this society ever since I was permitted to join. I had exactly this same experience in 1889, when I reported my first 8 cases of appendicitis. At that time a member could not believe there were 8 cases of appendicitis in Cook County. It is always thus where progress is concerned, and this is no exception to the rule.

I am fortunately in the comfortable position of having no private practice; every one of my cases are in the hospital where the records are open for inspection. I see Dr. Courtwright present, who is a regular attendant at my clinics, and of those 38 cases he probably saw at least 27 or 28. I have defined in a clean-cut way what I include in diffuse suppurative peritonitis. They were cases of general suppurative, perforative peritonitis, meaning that there were no circumscribing adhesions. There can be no question as to my definition or position in this matter. These cases all occurred in hospitals, not one of them in private practice. I have numbered them as they occurred, and reported them. I have told the doctors, who were considerate enough to come to my clinics, that they could see these cases as they progressed. Did I exclude any cases that came to

me with general suppurative peritonitis, or did I refuse to operate on any cases? No, sir. Was it good luck that contributed to my results? No! Good luck has no place in scientific work. It was clean, scientific surgery, based on an accurate knowledge of the pathology and the conditions of absorption, and I reaped the reward that every surgeon will receive who follows that line of treatment in this class of cases without any assistance from the element of luck.

Dr. Blake (closing the discussion):—The question has been raised as to how we are going to tell the extent of the peritonitis. I do not think that it makes such a great difference. Of course, we can have a large exudate with a low grade of inflammation. On the other hand, in some of our worst cases of peritonitis, called by others cases of peritoneal sepsis, there is scarcely any exudate at all. They present the picture of extreme toxemia and die within a short time, say a few hours or a few days. The way we can judge, as a rule, as to the virulence of the nature of the infection or degree of the inflammation and extent or plastic exudate, is by the picture of sepsis. If these patients enter the hospital with a pulse ranging from 130 to 150; with cyanotic patches over the belly; with local evidences of distention; a weak heart action, and rapid respiration, the respiration being in the neighborhood of 40, they are bad cases to deal with, and there must necessarily be a certain mortality attending them. We cannot save them all. It is just as impossible to save all of these cases as it is to save cases of bad infections of the extremities, and all of you have seen patients go on and die in spite of what we did for them in cases of infection of the extremities, cases of cellulitis, etc.

In regard to pressure being relieved by drainage, may be I was not clear in what I said before in regard to the extent of drainage employed. I put in a drain which goes through the abdominal wall. That relieves pressure; but the drainage is not carried down to the bottom of the pelvis. As to removing the exudate which is accumulating from the Fowler position, probably I did not bring out the Fowler position as clearly as I ought to have done.

We use it at a rather low angle, sufficient to make the patient comfortable, so that what fluid is in the abdomen is absorbed. Inflammations of the pelvis do not give us the picture of rapid sepsis that we have in the upper abdomen. The worst cases of peritoneal sepsis, and the most fatal ones I have observed have not always been cases of diffuse peritonitis, but those with multiple abscesses throughout the peritoneal cavity. They are not cases of diffuse unlimited peritonitis in the sense that there are no adhesions; there are adhesions and pus pockets, so that it is impossible to get at all of them and relieve them. We find one pocket of pus and then another, in fact, several scattered throughout the peritoneal cavity. These are bad cases, and most of them usually terminate fatally.

Dr. Bevan brought up the point of the rapid removal of the cause of infection and the stoppage of the infection. The stoppage of the infection is to my mind very important, and I can relate very sad experiences I have had in regard to that.

We have had in our hospital epidemics of gonorrhea in girls in the children's ward, complicated with gonorrheal peritonitis. I have operated on 8 cases, of which I can report the following results: These patients presented the picture of virulent septic peritonitis; they had all the earmarks of diffuse inflammation throughout the abdomen. They were young girls, so that one hesitated to remove the tubes and render them sterile for life. In about 50 per cent. of the cases, I did not remove the tubes; I put drains in the pelvis; I did not remove the site of infection. In other cases, I removed the tubes and either drained or did not drain, and they all got well, showing that if we have an infection with a continual outpouring of pus, infecting the peritoneum, it is impossible to combat it by any of our modern means of treatment, and we must cut off the source of infection. These cases were an object lesson to me, and I think I have learned more from them than from any other cases in my experience.

In regard to the nature of the drain used, I use a cigarette drain of soft rubber with a bit of gauze, which will act as a capillary drain. As to what I expect to accomplish by the drain, it is mainly to drain the external wound and prevent it from suppurating and consequently giving rise to a weak wound. It allows

of the escape of a certain amount of fluid and relieves pressure, which must be of some advantage.

The only difference practically between our treatment is that we try to get rid of the septic material by washing it out without evisceration and Dr. Murphy drains it out. We must be careful not to injure these patients; if we do they are gone.

Dr. Julius Grinker read a paper on

SUBACUTE COMBINED CORD DEGENERATION WITH CASE REPORTS.

ABSTRACT.

The disease has been frequently described under the following names: Combined system disease, ataxic paraplegia, postero lateral sclerosis, subacute combined sclerosis, subacute ataxic paralysis, combined cord degeneration, combined sclerosis of Lichtheim-Putnam-Dana type, diffuse spinal cord degeneration, subacute combined cord degeneration, but a knowledge of its symptomatology has not yet become common property of the general practitioner.

The principal symptoms can be arranged under (a) sensory symptoms, including ataxia, due to posterior column involvement; (b) motor symptoms, consisting first of weakness and spasticity, and, later, of paralysis with flaccidity due to implication of the motor neurones.

The cases as usually seen begin with some impairment of subjection sensation in the lower extremities. There may be tingling or numbness or prickling, or a sensation of heat or of cold in the lower extremities and in the lower portion of the spine. This is soon followed by ataxia, or inability to coördinate the muscles in standing or walking. In the early stages motor power is little if at all affected; there may be nothing more than a tendency to rapid fatigue. The deep reflexes usually show an exaggerated response and the Babinski toe sign can be found in the majority of cases. Girdle sensation and neurogliform attacks are occasionally complained of. Subjective sensory disturbances are sooner or later found in the hands and fingers and even in the tongue at times. After a period varying from one to five years the patient gradually becomes paraplegic, and amaciated, sphincter paralysis develops, the reflexes become abolished and death occurs either from an intercurrent complication or from exhaustion. English authors have divided the disease into three stages: the first stage is characterized by ataxia with *slight* spasticity, the second by *increased* spasticity and the third or terminal stage, by flaccidity with complete paraplegia and cachexia. Anemia is a marked feature in many cases and in some, cachexia of some sort is a prominent feature.

The disease runs its course in from one to five years and usually leads to a fatal issue, but prolonged remissions are possible. In the 13 cases which he reports, 11 were males and 2 females; in 4 of the cases the diagnosis was verified by postmortem examination which showed diffuse degeneration in the posterior columns and lateral tracts of the spinal cord.

The disease is to be differentiated from *tubes* by the absence in the latter disease of symptoms referable to pyramidal tract involvement, such as spasticity, exaggerated reflexes, Babinski sign, and by the presence of symptoms peculiar to that disease which are absent in combined cord degeneration, viz.: Argyll-Robertson pupil, lancinating pains, Westphal sign. *Lateral sclerosis* shows spasticity, exaggerated reflexes, motor weakness, but sensory disturbances are characteristically absent in this disease, while they are never absent in combined cord disease. *Friedreich disease* and *hereditary spastic ataxia* show the familial features and occur in the young, while combined cord degeneration lacks these and occurs after 40. *Spinal syphilis* and *multiple sclerosis* will cause difficulties in differential diagnosis from combined cord degeneration if their lesions happen to be located in the posterior and lateral tracts. In that event the etiology and careful search for the concomitant symptoms from other regions will usually clear up the diagnosis. The therapeutic test with mixed antilactic treatment will occasionally decide the diagnosis.

Under etiology it can be stated that the disease usually occurs in persons over 40 who are debilitated or anemic; according to the observation of some, women are most frequently affected; in our series of cases the males predominate. Most authorities assume a hypothetical toxin as the direct cause of the pathological changes in the spinal cord, but this part of the subject is still shrouded in obscurity.

The treatment is entirely sympathetic, but by husbanding the patient's strength early in the disease, life may be prolonged.

Dr. R. Rembe exhibited a case of eystieercus of the eye. Adjourned.

Meeting Nov. 28, 1906.

A regular meeting was held Nov. 28, 1906, with the president, Dr. George W. Webster, in the chair.

Dr. Arthur R. Elliott read a paper entitled "Clinical Observations on Blood Pressure in Arteriosclerosis and Bright's Disease, with Suggestions Regarding the Therapeutic Control of Persistent High Blood Pressure," in which he stated that, after making due allowance for physiologic variations, the normal limits of the blood pressure range was from 105 mm. to 140 mm. of mercury. He reported observations on thirty cases of typical advanced arteriosclerosis. The average age of the patient was 61 years, and the average maximum systolic blood pressure 148 mm. In fourteen cases, (47 per cent.) the blood pressure fell within the normal range. In sixteen cases, (43 per cent.) it was persistently above normal, and, in six of these latter, there was positive hypertension (over 170 mm.), each case displaying evidence of aortic atheroma. The points brought out by his observation in arteriosclerosis were the frequency with which it is not attended by elevation of blood pressure, and the necessity for using the sphygmomanometer in all cases to determine this point, owing to the impossibility of detecting high blood pressure in sclerotic vessels by the unaided finger. The writer called attention to the frequency of chronic nephritis in arteriosclerosis and the necessity for carefully excluding this factor in high tension cases. He referred to the researches of Hasenfeld and Hirsch as to the relative involvement of the abdominal arteries and aorta, in cases with and without tension, and concluded his consideration of arteriosclerosis with the statement that, in any given case of arteriosclerosis, the degree of involvement of the superficial vessels is no criterion of the severity of the vascular disease, and that, in cases marked with high tension, where chronic nephritis can be proved not to exist, arteriosclerosis of the splanchnic area or of the aorta above the diaphragm is to be suspected.

Dr. Elliott also reported blood pressure observations in 60 cases of chronic Bright's disease, as follows: Males, 34; females, 26; average age, 51 years; average weight, 160 pounds; average maximum systolic blood pressure, 190 mm.; maximum recorded in series, 285 mm.; minimum in any case, 110 mm.

The essayist reviewed the investigation somewhat in detail, showing that no constant ratio existed between the height of the blood pressure and the amount of albuminuria; the highest average systolic pressure being observed in cases without albumin in the urine. No definite relationship exists between the amount of urine and the height of the blood pressure, a pressure of 285 mm. coinciding with 1,000 c.c. of urine, and, on the other hand, low pressure being observed with a copious polyuria. Attention was directed to the diagnostic value of high pressure reading in nephritis. A pressure of 200 mm. or over should awaken suspicion of nephritis and necessitate the elimination of this factor, beyond doubt before any other diagnosis is accepted. The essayist then proceeded to discuss the management of high pressure cases. He reviewed the pathogenesis of hypertension, pointing out the secondary nature of this symptom and its dependence on systematic toxemia. Reference was made to the greater degree of comfort enjoyed by the nephritic with high tension than by the patient with Bright's disease, who had low tension. Inasmuch as the cardiovascular sequence was a reaction against toxemia, he regarded it as a compensatory and, from the physiologic viewpoint, to some extent, a conservative process. Owing to the liability of hypertension to cause serious and often fatal developments, such

as apoplexy, cardiac failure, etc., it often requires regulation. The basis of all true procedure in this direction lies in reducing toxemia by regulation of the patient's diet, fluid intake, hygiene, etc. The main dependence is to be placed on these measures. Increasing tendency is apparent to administer vasodilators for the reduction of excessive blood pressure. This the essayist takes exception to, and advises the utmost caution in procedure along this line. Reduction by drugs is, occasionally, rendered imperative by serious symptoms, such as angina pectoris, apoplexy prodromes, etc., and, under such conditions, nitrites, etc., may be freely administered for their temporary effects. As a routine procedure for the regulation of hypertension, vasodilators are seldom justifiable, and, when employed, should be very cautiously and slowly introduced, watching meanwhile the pulse rate and subjective comfort of the patient as indications of good effect, rather than the degree of reduction in the blood pressure record. The best results are evidenced by a reduction and steadying of the pulse and by an increase in the bodily comfort of the patient. A marked fall in blood pressure, which is more than temporary, following the institution of vasodilator medication is apt to have an unfavorable significance, as it implies a weak heart. The essayist strongly urges greater care and discrimination in the use of medicinal vasodilators in high tension cases.

DISCUSSION.

Dr. Joseph L. Miller:—This paper of Dr. Elliott's is timely, and it has overthrown many of our old views in regard to the causes and treatment of hypertension. Since the use of the sphygmomanometer, we have been able to demonstrate quite a number of new and interesting facts. First, we have been able to demonstrate that arteriosclerosis is not necessarily associated with an increase in blood pressure. In fact, the majority of cases of marked arteriosclerosis are associated with either a normal or a subnormal blood pressure, and the belief has been expressed that in those cases in which the pressure is high, there is probably arteriosclerosis of the splanchnic vessels. Second, it has been demonstrated that the finger is not a reliable means of determining the degree of blood pressure, especially in those cases where the arteries are very much thickened. It has also been demonstrated that the presence of marked accentuation of the second aortic tone may be associated with a perfectly normal or subnormal blood pressure. Groedel has shown, in a series of 170 cases in which there was arteriosclerosis and accentuation of the second aortic tone, that a relatively small per cent. of them was associated with an increase in the blood pressure. Again, it has been demonstrated to us, in these cases of hypertension, that drugs, such as vasodilators, or vasoconstrictors, do not affect the blood pressure as they do in the normal individual; that large amounts of vasodilators may be given without any effect apparently on blood pressure, and that doses of adrenalin may be administered, which will cause a marked rise of the blood pressure in the normal individual without an appreciable increase in these cases of hypertension.

A question of some interest, since the taking of blood pressure has come into use, is whether, in all these cases of hypertension, we should consider that the patient either has arteriosclerosis of the splanchnic area, or has nephritis. Krehl has recently shown, by careful observations, that, in some cases, we have marked hypertension where there are no urinary findings which would indicate disturbed function of the kidney, where autopsy has shown the kidney, both macroscopically and microscopically, normal; and, furthermore, there was no arteriosclerosis of the splanchnic vessels.

He classifies these cases as idiopathic hypertension. I believe this proves that we may have marked hypertension without either kidney change or involvement of the splanchnic blood vessels.

Attempts to reduce blood pressure in these cases of hypertension has been emphasized by Dr. Elliott as being objectionable. That is something we can not lay too much stress on. Hypertension is simply a symptom. It is evidently a protective measure. When the tension is high the patient is a little incon-

veniened, barring the accidents associated with it, like apoplexy, etc. A large amount of nitroglycerin may be given to these patients without appreciable effect. In a case which we followed closely, the amount of nitroglycerin was increased gradually, until the patient took one-sixth of a grain of the alcoholic solution, without any lowering of pressure. In the same way the use of nitrites in large doses was without effect. Profuse sweating was not followed by any appreciable fall in the blood pressure; yet the same individual, when kept on what Dr. Elliott has called disintoxication, that is, daily sweats and elimination from the bowel and absolute rest, after a period of several months, gradually dropped down from 190, until the blood pressure ranged from 160 to 170.

As to the part played by the splanchnic circulation in regulating blood pressure, in some experiments recently made on dogs, where we wished by some mechanical method of continued hypertension to determine what effect it would have upon the arteries, we attempted to do this by compressing the abdominal aorta. We thought by placing a band about the abdominal aorta and constricting it, we might be able to produce permanent hypertension, and after allowing the animal to live for a certain length of time we could determine the effect on the arteries. We found that the abdominal aorta, below the celiac axis, may be completely compressed without effect on the blood pressure. The moment we passed above the celiac axis, compression of the abdominal aorta would cause a rise in blood pressure of eighty or ninety millimeters of mercury. When we clamped off the hepatic vessels a rise in blood pressure of from 40 to 90 would occur. When we clamped off the mesenteric vessels there was a rise in blood pressure of from 40 to 50. When we clamped vessels above the celiac axis we got the maximum rise in blood pressure, showing that any disturbance of the splanchnic circulation which will interfere with the elasticity of the vessels is a very important factor in changes in the blood pressure.

There is one other point I wish to speak of, and that is the factors which produce hypertension. First, we have increased heart action; second, volume of blood; and, third, the degree of resistance offered. Those are the three factors which regulate the blood pressure. Volume of blood offers very little change; it is practically constant. You may bleed a person quite profusely with no effect on blood pressure, on account of the very rapid taking in of fluid from the adjacent tissues. Changes in resistance are due to loss of elasticity in the arteries, constriction of the arteries, and finally changes in the viscosity of the blood. Attention has been called to this latter point recently. The normal viscosity of the blood is five times that of water. Under certain conditions it may be increased nine or ten times that of water, with a corresponding increase in the blood pressure. If it can be shown in cases of nephritis that we have an increased viscosity of the blood, and inasmuch as it has been demonstrated that especially the citrates, the ammonium, potassium, or sodium salts are able to reduce the viscosity of the blood, we may have here a therapeutic measure of some value.

In conclusion, I wish to emphasize those points which Dr. Elliott brought out, that hypertension is much less dangerous than it would appear; that large amounts of drugs may be administered without any effect on blood pressure; that this hypertension is so firmly established, it is impossible to modify it by any of the ordinary vasodilators.

Dr. Charles E. Paddock:—I feel that I must apologize for allowing my name to appear upon the program, because I really have not given the subject any study. I have, however, been interested in the action of the blood pressure in the pregnant state, and am attempting to collect enough facts to warrant me in making some positive conclusions. So far, I am free to confess, the results are negative. From what we have understood in the past, we might infer that, because of the hypertrophy of the heart, there would naturally be an increase in the blood pressure during pregnancy. Recent investigations, however, seem to prove that there is no hypertrophy of the heart at this time. Mueller, in a recent article, gives statistics which disprove the former belief. From a large number

of postmortem findings, he claims that the heart is neither hypertrophied nor increased in weight; in fact, more liable to be slightly under normal weight.

From statistics which I am able to gather, and from my personal observation with sphygmomanometer, I find that the average blood pressure in a pregnant woman is 124 mm. I also find that there is quite a variation, ranging from 96 mm. to 135 mm. in primipara, and a variation of from 90 mm. to 145 mm. in multipara, being greater in multiparae than primiparae. The reverse of this we would naturally expect. The blood pressure remains the same during pregnancy, with little, if any, rise, just before or after labor, but during the labor there is some elevation of it. In those cases suffering from toxemia, I had hoped to learn something definite by the frequent use of the sphygmomanometer, but confess that so far I have failed. In this connection, I wish to report two cases which have recently come under my observation.

CASE 1.—Mrs. C., primipara, pregnancy normal; urine negative, last examination being made twenty-four hours prior to onset of labor. Duration of labor, six hours. Propulsive contractions in second stage intense, so that chloroform was used to control them. Delivery normal and no laceration. Forty-five minutes after delivery, patient complained of intense occipital headache, considerable nervousness and dimness of vision. Blood pressure showed that the mercury stood 238 mm. Catheterized urine showed a large amount of albumin by heat. Immediately put the woman into a sweat, which acted promptly; the headache diminished, the blood pressure dropped to 150, and, after a certain time, the sweating process was stopped. Shortly after, the headaches commenced again, the blood pressure went up, and sweating was again instituted. As soon as this was well established, the blood pressure dropped and the other symptoms diminished. This was continued during the greater part of eight hours, together with other treatments usual in this condition. The urine was found to contain a large amount of albumin, with casts, which gradually diminished in amount and cleared up entirely, within five or six days' time.

CASE 2.—Mrs. A., primipara; normal pregnancy. The examination of the urine had been made frequently. Two days previous to the onset of labor quite a large amount of albumin was present. No casts, and urea practically normal in amount. Considering, however, that this was a pathological and not a physiological condition, the patient was put on a rigid diet, with baths and sweats. Two days following this, the patient then being in the thirty-sixth week of pregnancy, labor commenced, and progressed favorably and normally up to almost the end of the stage; when the head was just about to pass the perineum, she was taken with convulsions. The case was terminated by forceps. The blood pressure, which had been taken before this time and immediately following the convulsion, stood at about 128. This convulsion was followed by two more, one hour apart. Then there was an interval of twenty-four hours before another convulsion occurred, followed in an hour by another one, in the meantime there being no elevation of blood pressure. This patient was slow of recovery and six weeks following the delivery there was still evidence of the nephritis, but with blood pressure radiating from 120 to 130.

Here we have two cases presenting, apparently, identical lesions, which we believe resulted from the same toxin. The one which seemed to suffer the least had the greatest blood pressure. The one which was attacked with convulsions seemed to suffer the most. What conclusions we may draw from this, I am unable to say. Of course, they are only two cases, but, from a clinical experience with the sphygmomanometer, I am of the opinion that it has gained for me no diagnostic value, and that, while I shall continue to use it, hoping that I may find something in it, which will prove to me a warning in the eclamptic cases, I must for the present depend upon the other findings to prove the existence of a toxemia or nephritis.

Dr. Fenton B. Turek:—I can only reiterate what Dr. Miller has said as to the importance of Dr. Elliott's paper, and of the observations showing the utility of attempting this work sometimes. An accurate knowledge of the pathogenesis

of the disease under discussion is our only hope of ever obtaining a rational course of treatment. In order that we may arrive at a distinct understanding, so far as is known to-day of the pathogenesis or etiology of this disease, it will be necessary to see how it corresponds to other well-recognized disorders. For instance, ergotism is known to be due to a fungus which, when taken and carried into the alimentary tract, produces certain disturbances which are well recognized and the pathology of which is well known. We have another disease—pellagra—due to a certain fungus, which, when affecting certain maize, when eaten, produces a disease similar in character to other lesions, showing a general autolysis, a breaking down of the cells throughout the body. If the same fungus attacks another kind of maize, it produces no such effects. It has been said that even Reynaud's disease is a kind of ergotism. So much for our analogous relation between well-recognized causes of diseases, simulating in character the sclerotic types.

A disease which affects the tunica intima or the endothelial layer is not so autolytic. This is explained in Wells' recent work, in which he shows that autolysis does not take place in a general way. The order is, first, the liver; second, kidney; third, convoluted tubules of the kidney; fourth, splanchnic autolysis; fifth, the pancreas; sixth, the endothelial layer of the blood vessel, and, seventh, the musculature. We have autolysis taking place naturally in the middle layer before the endothelial layer is attacked. It is important, if we would make any further advances in the etiology of these diseases, without having recourse to animal experimentation, not to go around in a ring, which we are doing at present, each one having his own idea and personal opinion about it, together with his clinical experience.

There have been a great many experiments made recently with adrenalin with reference to autolysis. We have attempted, in our laboratory, some experiments by feeding animals with the bouillon cultures of colon bacillus and extractives, and have found that, after a certain period of time, autolysis takes place. We know that in certain cases of renal disease, we have ulcers of the duodenum. We find ulcers in various parts of the body which show autolytic processes. So we have found, in our experimental work, ulcers in the duodenum and stomach, and lesions in the liver, kidney and in the blood vessels.

In order to determine to what extent fibrosis occurs, we stopped our experiments before complete destruction had taken place. The first series of experiments was repeated and the blood changes noted. The bacteriolytic and autolytic power of the blood are ascertained, and the changes in the blood, which were shown to have taken place in animals, were reported by me to the British Medical Association. The feeding of the animals was kept up for a month in some cases and in others for six weeks, after which the animals were killed. We found that where the lesions had been produced in the blood vessels, the kidney, and in the liver, they would be filled up by connective tissue cells, and of various stages. We have the first stage of nutrition to complete cicatrization, and these changes showed how the lesions were apparently produced, some in the heart, although we can not probably apply this scientific experimental work to a therapeutic discussion; still the lesions are so analogous and so in keeping with what we find in the human subject, that I may be pardoned if I can in a measure show some relation between these experiments and the results obtained. This brings us naturally to what to do in the way of treatment. If these animal experiments are of any value to us, then we should first direct our attention towards the prevention of the cause. If we find there are disturbances of the alimentary tract, we should strive immediately to correct the errors.

About two weeks ago, I presented a paper before this Society, in regard to methods of properly feeding this class of cases by removing the extractives from meat, and feeding patients with them and obtaining interesting results in certain cases, including cases of arteriosclerosis. In dietetics, then, we should remove from the food that which is injurious. We found that extractives were a good soil for micro-organisms in the intestinal tract. If we used certain media, we would not have secondary results which we have obtained, and then, in our

animals experimented on, we found no lesions in those from which we removed the extractives. In those who were fed the extracts, we found certain lesions.

The next is the possibility of correcting or relieving symptoms by increasing the antibodies in the blood, and this is done by serum treatment. We can increase the antibodies by injections. Autolytic processes take place; but, when we speak of intoxication, we mean the absorption of abnormal products. When we lose our own protection, as we do, we speak of that as an autolytic process. To increase the protection so as to prevent self-destruction of cells in the body, we have recourse to serum treatment. There has been some interesting work accomplished along this line, showing the effect of increasing the antibodies against the autolytic processes.

The last is the general symptomatic treatment of stimulating the antibodies. We have heat stimulation, sitz baths, various forms of heat, which are a symptomatic treatment; but we must always use certain symptomatic treatment, which is of great value in the stimulation of the splanchnic circulation; but, nevertheless, there are disturbances of the splanchnic circulation and we have numerous methods of restoring it, such as colonic lavage, heat, sitz baths, and treatment of that kind. In order to treat these patients rationally, we must have a definite idea of the etiology or pathogenesis of the disease, and apply treatment directly to the original cause or causes of the disease before we can hope to achieve any success in restoration. In the near future, we hope to make considerable advance along the rational treatment of this very complex syndrome of arteriosclerosis.

Dr. Frank X. Walls read a paper entitled "The Digestion of the Proteids of Cow's Milk in Infancy." Dr. Joseph Brennemann read a paper entitled "Nutritional Disturbances in Infancy due to Over-Feeding." These two papers were discussed jointly.

DISCUSSION.

Dr. Frank S. Churchill:—The Society is to be congratulated on having heard two extremely interesting papers on an immensely important subject, although I can not agree with all that has been said. The authors seem to depart very radically from the broad general principle which has governed American pediatricians in the substitute feeding of infants during the last fifteen years, viz., in that infants who are taken off of breast milk should be given a mixture which as closely approximates breast milk as possible. That is common sense. That is all the advocates of the much abused, much maligned percentage system advocate or believe in. All they try to do is to have their mixtures imitate good normal average breast milk as closely as possible. The only difference I can see between what Dr. Walls and Dr. Brennemann advocate, and what Rotch and Holt and the other advocates of the percentage system advocate is that they are inaccurate; whereas Rotch and Holt are accurate. Dr. Brennemann has spoken repeatedly, and so did Dr. Walls, of using diluted milk, saying that they would take small amounts of cream, of milk, or skimmed milk, while Rotch and Holt simply say that they take low percentages of fat, low percentages of proteids, and low percentages of sugar. In the paper of Dr. Holt, from which Dr. Brennemann quoted, read at the 1904 meeting of the American Pediatric Society, wherein he reported cases of excessive fat, he mentioned, specifically, the percentage of fat on which the babies were fed. He did not simply say they received an excessive amount of fat, he mentioned the percentage of fat which the children had been receiving. That is the only difference between the opponents of the percentage method of feeding and the advocates of it. The opponents of the method are really feeding babies percentages of fat, of proteids, and of sugar, only they do not know what percentages they are feeding. The advocates of the percentage method of feeding try to estimate what percentages they are feeding, and if they know the standard of the milk and cream with which they are dealing, they know what percentages of these elements they are feeding.

I am very glad to have heard the subject discussed in this way, along definite lines of proteid indigestion and of fat indigestion. I believe by and by we shall pay more attention to sugar in digestion also.

I read a purely clinical paper two years ago before this Society in which I dwelt upon the importance of studying and trying to find out from which form of indigestion babies suffer; whether from feeding too high a percentage of fat, too high a percentage of proteid, or too high a percentage of sugar or too low a percentage of these elements. In that paper, I spoke of the frequency with which we feed babies too high a percentage of fat. There is no doubt about that, and this has been generally accepted for the last two or three years. We have been in the habit of feeding babies too high a percentage of fat. I saw a striking instance of this not long since in consultation with another physician. It was about a year ago. The baby, fifteen months old, had been taken to the country and fed upon milk obtained from three cows, all of which were Jerseys. The mother added cream to the whole milk, and the baby got a mixture that contained about 7 per cent. of fat. When the baby was brought back to the city that method of feeding was not carried out; that is, so high a percentage of fat was not given but the fat was still in excess. Very soon the natural result followed in this case. The baby had a bad attack of enterocolitis, subsequently developed meningitis, and died, indirectly as the result of having had an excessive amount of fat.

In regard to the occurrence of curds in the milk which Dr. Walls has said he never gets with fat-free milk, I can not agree with him. I have fed babies on fat-free milk and on whey, and have seen curds in the stools. I have never made a careful and extensive examination, both chemically and microscopically, of these curds, and perhaps, therefore, I am not justified in saying that they are fat; but I can not see how a baby fed on whey, which contains practically no fat, can have fat in the bowel movements.

The subject of whey leads me to speak of the reasons for which it is fed. It is one of the natural evolutionary steps in the study of the percentage system. It is an attempt to imitate mother's milk. In the proteids of mother's milk we have a larger percentage of lactalbumin than we do of caseinogen; whereas, in cow's milk the proportions are reversed, the caseinogen being in excess. What we attempt to do in making whey is to eliminate this caseinogen, which is indigestible, and we have left the more digestible element, lactalbumin, which is found in such large amounts in breast milk. After having the baby put upon whey, a greater or less length of time, we add skimmed milk or cream in order to increase the amount of fat which the baby needs, and also to add a certain amount of caseinogen, which it also needs, but which it should not have in excess. In that way we simply try to imitate the proportions of these two important elements found in human breast milk. That is all the advocates of that system try to do when they feed whey. It is a closer step toward imitating good average breast milk.

In the first case reported by Dr. Brennemann, if I understood him correctly, while the baby was gaining in weight and was being fed on breast milk, he switched off from breast milk and very soon the child fell off in weight. I would like to ask upon what formula the baby was put at that point, also the age of the baby? This case shows what we would naturally expect, a falling off in the rate of gain toward the last half of the first year, especially if they are switched off from breast milk to a formula of modified cow's milk. It is very essential that we should study the individual case. Each baby must be considered a law unto itself. Some babies have a greater proteid digestive power than others. Some are thrown down by sugar; others will take large amounts of sugar. Others will take large amounts of fat, while some cases are thrown down by large amounts of fat, and they get along much better with lower percentages of fat.

As to constipation being due to excessive fat, it is a well-recognized condition. It does cause a very marked constipation. The skin eruptions which one sees

as the result of feeding a high percentage of fat are likewise very interesting, and if one follows these high percentages he will see that they occur time and again. He will make an attempt to increase the percentage of fat, thinking the baby needs it, and may get an erythema, an eczema, or some other form of skin lesion. That has been my own experience quite often.

I would like to emphasize what Dr. Brennemann has said about long interval feeding, not only with reference to babies that are fed upon modified cow's milk, but babies that are breast fed. The sooner we get them on longer intervals of feeding, the better it will be. I take breast fed babies and have them fed at three hour intervals as early as possible, breaking up the habit of two hour feeding which one frequently finds when he takes charge of a case.

I think the great trouble that most physicians find in the percentage method of feeding babies is that they do not follow the babies up closely and carefully enough. You must watch them carefully and be prepared at any time to make changes. You should study those changes as carefully as you can to find out what ingredient of the milk the baby is suffering from, and then change that ingredient and adapt it to the capacity of the individual infant with which you are dealing.

Perhaps the most important step made in recent years is the realization that milk is a complex food. When you are dealing with adults and a patient comes to you and says, "Doctor, my food does not agree with me," you are not satisfied with that. You delve into the case and find out whether that man or woman is eating too much meat; whether he is eating too much sweet stuff; whether he is drinking too much whisky. You try to find out in what particular part of his food he is taking too much or too little. It is exactly the same with the advocates of the percentage system of feeding, and it is exactly the same way with Dr. Walls himself. He tries to find out whether a baby is having too little or too much proteid, too much or too little sugar, etc., and he regulates it. Whether he regulates it and says the baby is getting $3\frac{1}{2}$ per cent. of fat, $1\frac{1}{2}$ per cent. of proteid, and $6\frac{1}{2}$ per cent. of sugar, or says it is getting diluted milk or cream perhaps does not make much difference, except that percentage is more accurate, and the more exact we can be the better the results we will get.

Dr. Charles E. Paddock:—I, fortunately, have stopped writing formulæ for baby feeding. I feel that I owe the babies which I have fed by the percentage system in the past few years an apology. It is true, they have done fairly well; most of them are living to tell the tale. I have followed out the percentage system, being aided by our essayists to-night, to a great extent, and I trust, in their enthusiasm, they will not go too far, but strike a happy medium.

There were one or two things in their statements that rather surprised me. One is with reference to the feeding of fats. As Dr. Churchill has said, in the artificial feeding of babies we try to simulate breast feeding as near as possible. We must get the same amount of fat, if possible. We find, sometimes, that when a mother nurses her baby at the breast it does not grow. It becomes constipated. There is some fault with the milk, and maybe we find it deficient in fat. That has been the experience of myself and also of Dr. Walls. The other elements were all right, but there was a deficiency in fat. The baby was not gaining. We increased the fat and the baby began to gain in weight. This is a clinical fact, and I do not understand how they can say babies have been over-fed. We have followed the percentage feeding method just as carefully as possible, striving to imitate breast feeding. There may be a little difference in the quality of the milk, even though we have the same percentage, but still I think we are going a little too far in what has been said, and I hope that these men will strike a happy medium. It is my intention to assist Drs. Walls and Brennemann all I can to follow this up, and I know that they will feed the babies I will turn over to them regardless of this system which they are now advocating; that is, they will feed babies as they should be fed.

Dr. William J. Butler:—I think we have overlooked one point, for if I am not mistaken Dr. Walls was formerly an ardent supporter of the split proteid and per-

centage feeding, and after this confession of previous scientific sins I think we ought to forgive him. I congratulate him on getting in line with the general tide away from the proteids and toward the fats, as the offending factor in artificial feeding. In other words, he is getting back to where our forefathers stood in feeding children, either with whole milk or skimmed milk as it is, or variously diluted, and I dare say a large part of the artificial fed infants have, during all time, been and will continue to be fed in this way. The percentage feeding, which came into vogue a number of years ago, was considered at once as a solution of the entire question of artificial feeding. It was thought that there was not anything more to accomplish, that everything had been done. It was found, however, that as time went on, this did not fill the bill entirely; there were some infants with digestive apparatuses to which milk mixtures could not be fitted, and, in looking around for a cause proteids were seized upon as the constituent at fault, and consequently various methods were advised to overcome this by reducing the proteids to the lowest possible point in some instances, by making the milk mixture with cereals, lime water, etc. But after all, it was found it did not suit perfectly, and consequently within the last few years, I believe in this country, an alarm was sounded by Holt. Attention was called to the excessive fats as an important factor in the gastrointestinal disturbances of artificially fed children. This with some comparative analysis of butter fats and reports of acidosis from so-called high fat percentages has caused a complete diversion of attention from proteids to fats. Proteids are entirely forgotten in this whole question. In the meantime, Poynton, of London, tells us that we can overcome all the difficulties in infant feeding by adding citrate of sodium to the milk, and he makes no mention of the fats in this method of feeding. The food is diluted with water at first, and subsequently whole milk with citrate of sodium is employed. The fact of the matter is, in feeding infants there are one or two things to keep in mind, namely, that artificially fed infants must be divided into two or three classes. First, we have healthy infants with a healthy digestive apparatus, but who for some reason or other are deprived of mother's breast milk, and must be fed by some artificial means. Second, we have the pathological class, which are subject to other divisions, a class in which we have infants with various nutritional disturbances and a feeble digestive apparatus. Another class of infants that have been referred to this evening are those with acute gastrointestinal diseases of the catarrhal and ulcerative type. These infants are to be fed along entirely different lines. Take a healthy infant, with good digestive apparatus, and anyone who has a clear understanding of the general principles of feeding, and uses judgment, will have no trouble in feeding it.

So far as the pathological class is concerned, children with rickets, malnutrition, etc., that have functional disorders of the gastrointestinal tract, and, in some cases, organic disorders, cannot be treated in the same way, but must be treated on entirely different lines, and, up to date, apparently, the percentage method offers one of the best working principles in dealing with them. I do not think it is so, that these infants have been excessively fed on fats, and I think a wrong impression is going out that a frequent cause of their intestinal and constitutional disturbances are due to too high percentage of fat. It is not customary to feed them more than 2½ per cent. of fat, seldom over 3 per cent., and not infrequently as low as 2 per cent. The percentage basis is an intelligible plan for feeding infants. In the majority of cases, with a little patience, an infant can be accommodated to a suitable diet. Of course, some infants will not only not tolerate milk mixtures or a skimmed milk diet, but will not tolerate any diet. Those infants are going to succumb. But I believe the plan of Poynton is worthy of trial. Where we find difficulty in adjusting a diet on a percentage basis add citrate of sodium to it. I have seen happy results follow that course. I have seen instances in which the addition of citrate of sodium has rendered it possible to feed milk mixtures that had previously not been tolerated. The suggestions as to skimmed milk must be considered a step backward, but it will undoubtedly continue to be used (and to advantage in some cases) as it has been in the past.

While I do not think the addition of citrate of soda to milk will solve the question of infant feeding entirely, I believe it will prove a valuable recourse in infant feeding.

Dr. Thomas Grant Allen:—We are to be congratulated on having these two excellent papers. It is encouraging to some of us to know that long and careful experiments have been carried out to strengthen us in our belief that proteids are not the sole cause of the difficulty in the digestion of cow's milk by the infant, perhaps not even the chief cause. It has been recognized that fats often are the principal cause of trouble. Infants' stools contain a considerable amount of fat, even when the percentage of fat in the milk fed is not high, and a surprisingly large amount when the food contains a high per cent. of fat. These facts show that we ought to begin with low fats and increase only as fast as the baby is digesting the amount we give.

I thoroughly agree with the essayists that proteid is not so difficult of digestion as is generally supposed, and I also agree with Dr. Walls that on account of this belief the baby under 3 months, yes, under 6 months, does not get enough proteid. I am not convinced, however, either by my own work or by the observations related here that milk containing 4 per cent. proteid can be fed to a little baby with impunity. Even if it could be without immediate bad effects I do not think it should be except temporarily, for the after effects must necessarily be bad unless the baby has greater vitality than we have good sense.

I believe we can not afford to discard percentage feeding. Regulating the amount of food to be given a baby by a consideration of the quantity of energy this food will produce does not seem to me to upset anything that we have of real value in percentage feeding. I should characterize it not as a revolution, but as an evolution. We are going to retain all that is good in percentage feeding, and in addition, use the energy test and other tests which I can merely suggest to-night to serve as checks in estimating the efficiency of our methods of feeding.

I want to make two or three criticisms. First, if we imagine that we can regulate feeding by a consideration of the energy alone, instead of by following some age schedule, then I say that instead of feeding according to age we are substituting feeding according to weight, and that either alone is essentially faulty. I have always maintained that we cannot feed a baby according to its age alone or its weight alone. We must have other criteria as well. It goes without saying that the comfort, sleep and digestion of the child must have paramount consideration. In addition we should take account of the increase in weight and the amount of each constituent, in other words the percentages of proteid fat, etc., in the food.

My second criticism is this: In feeding babies milk devoid of fat the amount, with sugar added, needed to furnish the requisite energy, will supply more proteid than is needed, thus overworking the organs engaged in proteid metabolism and resulting in incomplete metabolic products such as uric acid. Suppose, e. g., a baby three months old, weighing, say, 12 pounds, is given sufficient skim milk and sugar to furnish 480 calories (energy equivalent, 40). This would require 30 oz. of skim milk in 24 hours (1 oz. skim milk plus 1-20 oz. sugar furnishing 16 calories). Now, 30 oz. skim milk will furnish between 1 and 1.2 oz. of proteid, which is proportionately three or four times as much as is needed by a man doing moderate muscular work. Further, the sugar in the milk plus the sugar added will furnish 2.7 oz., i. e., the proteid is more than one-third of the total food, whereas in a well-balanced diet the proteid should be only about one-fifth of the total estimated as carbohydrate. In other words, in unduly reducing the fats we must beware lest we run into the opposite fault, that of giving an unbalanced diet in which the proteids are excessive.

My third criticism is directed at the slavish following of an European energy quotient. Perhaps, I have had more experience in testing European and American standards for adults, men and women, and children over 2 years, than any other physician in this country. I have no hesitation in saying that the European standards are inadequate for America. Europeans, men, women and children,

go about their work or their play less energetically than Americans. I believe that the European standard for babies is also too low. At any rate I should not hesitate to run the energy quotient for my babies above 100 calories per kilo., or 45 calories per pound, which is the English equivalent. And I am sure the babies often require 50 or more. In general, however, and particularly when the baby is ill, it is safer to keep the energy quotient below 45 pounds. Here, as in percentage feeding, it is folly to try to feed all babies alike.

For eight years I have used a table, which I worked out in English measures, in checking the amount of proteid and energy. It is easy to use and easy to remember. It may be of service to some here:

	Contains.	Proteid in oz.	Energy in cal.
Skim milk .....		.04	10
Whole milk	Fat 4 per cent.	.04	20
16 oz. top milk	Fat 7 per cent.	.04	40
9 oz. top milk	Fat 12 per cent.	.04	40
Cream	Fat 16 per cent.	.04	50
Cream	Fat 20 per cent.	.04	60

There are many other things in these papers I should like to discuss, but the hour is late. To me these papers have been extremely interesting, and I think, if we are to judge by the large number who have remained till this late hour, they have not proved uninteresting to others. I congratulate Dr. Walls and Dr. Brennermann on having the opportunity to carry out this series of experiments.

Dr. Ernest Lackner:—In discussing infant feeding, our object is to simplify our methods of feeding as much as possible. Heubner has elaborated a system which can be easily used, and he has made an addition to it which is of great value to us all in the treatment of infants. You will find in the last edition of Heubner's work that his treatment is based on age and weight and capacity of stomach. In his division of milk, for instance, the first six weeks, he will give one-third milk. One-third milk can be easily estimated in percentages according to the chemical constituents of milk, so there is no great difference between this method and the percentage treatment. It is still a percentage treatment.

	Proteids.	Fats.	Sugar.	Salts.
1/3 milk equals	0.9	1.2	1.5	0.23
2/3 water, 8 % sugar, equals .....	..	..	5.3	...
1/2 milk equals	0.9	1.2	6.8	0.23
1/2, 10 % sugar sol. equals	1.5	1.8	2.2	0.35
	..	..	5.0	...
2/3 milk equals	1.5	1.8	7.2	0.35
1/3 12 % sugar sol. equals	1.8	2.4	3.0	0.47
	..	..	4.0	...
	1.8	2.4	7.0	0.47

In his experiments he has found that we can use a high percentage of sugar. He gives as high as 7 and 9 per cent. of sugar to bring about the heat-producing quality. The percentages given are for children under 1 year, and he also gives a table, graduating the feeding. He asserts that a child should cry forcibly before each feeding. It shows that the stomach is empty or that digestion has taken place. In the second and third six weeks he gives one-half milk. Again, we can estimate by one-half the various percentages of milk. This percentage feeding is not much out of the way except there is a deficiency in fats, and he overcomes that by increasing the percentage of sugar. In the sixth or seventh month he gives what he calls two-thirds milk. By increasing the milk we decrease the amount of water. By mathematical calculation he gives the percentage of sugar we add, to make seven or eight per cent. of sugar. If a child has gained fifteen or sixteen pounds in weight, has a good healthy digestive apparatus, and its bowels are acting well, he puts it on whole milk. He may take two-thirds milk and one-third water, giving a certain proportion, and beyond that proportion he does not go. If a child cries and the quantity given does not satisfy it, he probably will add barley water or oatmeal, something to increase the amount. But he does not decrease the milk proportion, that is, the real food proportion. He simply

increases the volume by adding barley water or oatmeal. Heubner puts the whole subject of infant feeding on a scientific basis. The amounts are stated. Of course, one child will not take what another takes; one will require much more than the other. For these variations in children he has tables that are well-worked out.

I have had considerable experience at the Michael Reese Hospital in dealing with children who were suffering from various diseases, marasmus, etc., and have been successful. I have had some experience with the over-feeding of infants, where they would cry and be in great distress; yet, by reducing the food they would get along very well.

Another thing: Heubner has come to the conclusion that these excessive diarrheas are in a great measure dependent upon bacterial factors; that many of the disturbances and distresses of the stomach and intestines are due to bacteria, except where we have a crisis, as from over-feeding.

Dr. Walls (closing the discussion on his part):—I wish to thank the society for the manner in which it has received my paper. There were too many points brought up in the discussion to be answered. There is one point, however, that might be spoken of, and that is this: I did not advocate any modified method of feeding infants; nor did Dr. Brennemann advocate caloric feeding. I said something about it; that it should be used, as Dr. Allen has emphasized, as a check, as a precaution against overfeeding. I did say something about percentage feeding, namely, that it fell far short of a scientific method. Dr. Churchill said it was the same thing in feeding adults, and he mentioned cocktails. Now, it does not make a material difference whether a cocktail contains 5 or more per cent. of alcohol, but it does make a good deal of difference how many of them one takes. It is the same with cream and sugar. It does not make much difference what the percentage of fat is, but it is the total quantity the child receives in a day. The percentage system tells you that it is 3 or 2 per cent. fat, but it does not tell you how much of that 2 per cent. fat the child receives in twenty-four hours.

If Dr. Churchill gets curds from whey, or from skimmed milk, I have not had them in my cases. Whey is a variable thing. I have seen whey made milky in appearance that contained fat. Such whey gives rise to curds, and these so-called curds are fatty bodies. I saw a child to-day that was receiving cream, 6 ounces; water, 20 ounces; milk-sugar, 2 ounces; and lime water, 1½ ounces, according to the percentage idea. It was not a bad food. It was about 3 per cent. of fat, less than 1 per cent. proteid, and about 8 per cent. of sugar. The child weighed seven and a fraction pounds, or three and a half kilos. The energy of that food is 564 calories, or energy-quotient of 160. It would make no difference to me what percentage of fat is given; but if I go to see a child that is getting 160 calories, and is underfed apparently, I know that child is going to have gastrointestinal disturbance. It has too much food. That is what Dr. Brennemann meant when he spoke of the caloric aspect of feeding as a check against overfeeding.

No objection was taken to the percentage method of feeding, but, as commonly taught, the percentage method is inaccurate. The percentage method does not imitate the natural method, only imperfectly. The percentage method aims at arriving at a food as much like mother's food as possible, which is about four to six, but invariably in all schedules published the amount, four to six, greatly exceeds the amount obtained at the mother's breast.

Dr. Brennemann (closing the discussion):—A discussion of the percentage method naturally follows the two papers that have just been read, although our objections to that method have been implied rather than expressed. The hour is so late that this subject can only be further touched upon in one or two phases. I received this morning the November number of the Archives of Pediatrics which contains an article by Holt, from which I will quote a few passages. These contain in themselves a strong argument against the general use of the percentage method as well as an increasing acknowledgement of the fact that

fat is a greater factor in nutritive disturbances than has been generally recognized in this country.

He says: "At a meeting of the society held two years ago I presented a paper setting forth disturbances of digestion resulting from high percentages of fat in the food of infants. My experience since that time has shown that these disturbances are of great frequency and, I think, are increasing in the hands of the general profession who are practicing infant feeding."

"I see more failures in the use of modified milk from ignoring the rules regarding the proportion of fat than from any other single cause."

"I have learned never to accept the simple statement of a nurse or a doctor regarding the percentages a child is taking, for I seldom find that it is even approximately right."

"The mistakes in calculation which men are making are not in tenths of a per cent., but often of 3 or 4 per cent."

"We can not expect to do very much in teaching details to men in busy practice; few of them have either the time, the disposition or the patience to master even the few essential principles of percentage feeding. . . . Our chief hope for the future is with the students of medicine."

"One of the first causes of trouble, I think, is the great number of complicated methods of calculating percentages which have been published."

He then gives a method of "reducing any milk formula to approximate percentages," and another eminent pediatrician present gave still another method for calculating percentages!

Dr. Churchill has said that Holt in his former paper, quoted in mine, gave exact percentages of the fats that caused the symptoms that he details and that these were very high—from 5 to 7 per cent. I am glad that point was mentioned. It makes my point all the stronger, that it is the amount of fat and not the percentage that causes the trouble—because, I think, we have demonstrated, over and over again, that the identical symptoms-complex is produced by feeding too much milk, even if that milk contains only $1\frac{1}{2}$ per cent. fat (see Baby E), or 2.9 per cent. fat in a child 19 months' old (see Baby McGuire). The same symptoms are produced regardless of percentages.

Dr. Churchill and Dr. Paddock have both made the statement that one thing in favor of the percentage method was that we could imitate mother's milk in composition. The difficulty that we all have in feeding babies other food than its natural food, while the chemical composition, so far as we know, can be made very similar, alone answers this point. We do not attempt to imitate mother's milk, chemically, beyond a certain point. We do try to imitate it physiologically, i. e., to get it do the same thing for the baby that mother's milk will.

Dr. Paddock also stated that the babies that he had seen fed were apparently not overfed—that the milk was not richer in fat than mother's milk. I am afraid that, on account of having to hurry through with my paper, I did not convey clearly the idea I wished to. It is not a question of strength of milk, or of percentage—it is a question of quantity. The cow's milk may be one-half weaker in fat than mother's milk and yet the child may take three times as much.

If Dr. Paddock thinks he has not been guilty of overfeeding I would ask him to do as we have done; go over his past records, especially of those babies that did not do as well as they should have done. If he will consider both the symptoms in some of these cases and the amount of food from a calorimetric standpoint that these children received, I believe he will find some things that will be interesting. We did not realize at the time we were doing it that we were overfeeding.

Dr. Churchill says that the only difference between our method and the percentage method is that the latter is accurate, while ours is not, as evidenced by the fact that I have made such statements as "we added a little more milk," etc. Outside of the fact that the greater part of my paper implies that the percentage method is not accurate because founded on an erroneous idea, and also because it not only permits, but favors, excessive amounts of food—outside of this I would only state that we have recommended no method here to-night. The two papers have been essentially destructive. The time did not permit us to go into

the constructive side, so that our method is only inferred and we ought not to be held responsible for some one's interpretation of the probable nature of that method. The determination of energy quotient is not a method of infant feeding—it is intended as a check on overfeeding and underfeeding—and if it is ever indicated it is in making the percentage method more accurate.

In conclusion I would say that not one ever fed babies more zealously by the percentage method than we did. We feel that we have gotten a new light, and we believe we are on firmer and safer ground than we were.

LAWRENCE COUNTY.

The Lawrence County Medical Society held its annual meeting on Monday, Dec. 3, 1906. Dr. J. F. Schrader, of Bridgeport, read a paper on Nephritis, and Dr. Charles P. Gore read one on The Anatomy and General Evidences of Intestinal Diseases. Great interest was shown in the discussion that followed the reading of the two papers. The following officers were elected for the year: Dr. R. R. Trueblood, President; Dr. Chas. P. Gore, Secretary and Treasurer; Dr. J. A. Emmons, Censor. At 6 o'clock a magnificent banquet was served to the society by the ladies of the Christian Church, at the home of Dr. R. R. Trueblood. This meeting was the best attended and the most enthusiastic meeting the society has ever held, and promises success for the future of Lawrence County Medical Society.

CHAS. P. GORE, *Secretary*.

PIATT COUNTY.

Secretary B. L. Barker, of White Heath, reports that the Piatt County Medical Society is active and holding regular meetings. At a recent meeting, the life insurance question was taken up and a resolution binding every physician in the county to the \$5.00 fee was passed and has been already signed by most of the practitioners in the county. A new fee bill went into effect December 1, raising the fee from 20 to 50 per cent. for all work and making fees uniform throughout the county. The people are not opposing this, since they seem to realize that increased fees are necessary to make increased expenses in the practice of medicine. The Secretary states that adjoining counties will also take this matter up and hopes that the movement will become general.

On October 31, the Society gave a banquet at Monticello, to which every member of the profession in the county was invited. A large number attended. Drs. W. K. Newcomb and A. S. Wall, of Champaign, and Dr. A. F. Wilhelmy, of Decatur, were present. Dr. W. F. Matson, the President, acted as toastmaster and a number of good speeches were made, tending to the betterment of the profession.

The Society is now in its third year and on the best footing it has ever been and is doing a noble work for the profession.

VERMILION COUNTY.

The annual meeting and election of officers of the Vermilion County Medical Society was held in the City Hall, December 10, 1906. The minutes of the November meeting were adopted. The following physicians were elected to membership: A. J. Clay, Hoopeston; O. W. Allison, and J. W. Turner, Catlin; J. M. Hickman, Westville; J. M. James, Henning; H. L. Dice and D. C. Hinshaw, Ridgefarm; E. F. Nebeker, L. V. Fairhall and W. R. Tennery, Danville.

The treasurer's report was read and accepted. The election of officers resulted as follows: President, A. J. Leitzbach, Fairmount; vice-president, C. E. Wilkinson, Danville; secretary-treasurer, R. E. Clark, Danville.

The special feature of the meeting was a social session, with smoker and buffet lunch.

E. E. CLARK, *Secretary*.

NEWS OF THE STATE.

Diphtheria is reported to be increasing in Metamora.

Dr. L. W. Fulton, Sr., has removed from Loami to New Berlin.

Dr. L. W. Fulton, Jr., has removed from Loami to Old Berlin.

The epidemic of scarlet fever at Moline is reported to be abating.

It is reported that the scarlet-fever situation in Tuscola is improving.

Dr. C. C. Allen of Virden has resigned as surgeon of the C. & A. R. R.

Dr. Henry B. Favill has been elected president of the Municipal Voters' League.

Dr. Joseph Zeisler of Chicago, has returned from Europe much improved in health.

Dr. William L. Baum has been recently elected commodore of the Chicago Yacht Club.

Dr. Frank M. Hagans, Lincoln, has been recently appointed physician of Logan County.

Dr. W. W. Van Wormer of Girard has been appointed local surgeon of the C. & A. Railroad.

The Burton Holmes lecture in Chicago, Dec. 3, 1906, netted about \$9,000 for the Provident Hospital.

Dr. A. E. Halstead has been recently elected professor of surgery in the Northwestern University Medical School.

Dr. Nicholas Senn of Chicago was recommissioned Surgeon-General of Illinois by Governor Deneen, Dec. 31, 1906.

Dr. George Paul Marquis has been appointed a member of the County Hospital staff, vice Dr. Horace M. Starkey, retired.

Dr. Albert E. Brown has not removed to South Dakota, as stated in the December JOURNAL. He is in Waukegan to stay.

The address of Senator Tilman in Chicago is reported to have netted \$2,000 for the benefit of the Chicago Union Hospital.

Dr. Everett J. Brown, of Decatur, has purchased a farm of 160 acres in Christian County, Illinois, for which he has paid \$24,000.

Schools have been closed and church services and other public meetings have been interdicted in Colfax on account of cases of diphtheria.

The Oak Park Hospital expects to be opened about the first of February. Dr. John W. Tope has been chosen to organize its medical staff.

The prevalence of smallpox in Galesburg has necessitated the requirement no child shall attend school unless it has been properly vaccinated.

Dr. Robert H. Babcock of Chicago has been appointed a member of the consulting staff of the County Hospital, vice Dr. Fernand Henrotin, deceased.

Dr. B. C. Corbus has severed his association with Dr. Louis E. Schmidt and has opened offices at 407 Schiller Building, 103 East Randolph street.

Dr. Charles J. Whalen, health commissioner of Chicago, spoke before the Steel Club, Joliet, Nov. 16, 1906, on "The Influence of Sanitation on Mortality."

The Passavant Hospital of Chicago received about \$40,000 from the total receipts of the "Streets of Paris," recently given in that city for the hospital's benefit.

Dr. Louis L. McArthur of Chicago has been chosen to represent the Illinois branch of the National Red Cross at the annual convention in Washington, D. C.

Dr. Charles W. Behm of Chicago, chief of the disinfection bureau of the department of health, has been seriously ill with diphtheria, but is reported to be convalescent.

Dr. Finley Ellingwood has severed his connection with the *Chicago Medical Times* and will found a new journal devoted to the exploration of so-called specific medication.

Dr. Alexander Hugh Ferguson of Chicago was decorated with the Order of Christ by the Count de Saint Eulalia, by the Portuguese consul, at New York, at a complimentary dinner, Nov. 27, 1906.

The Ravenswood Hospital, Ravenswood, Chicago, has recently opened its doors to patients. It is a thoroughly fireproof, modern, well-equipped hospital, and is located in one of the cleanest sections of the city.

Dr. Samuel P. Hopkins, of Springfield, will remove to Omaha and enter in partnership with Dr. Albert P. Condor, of that city. Dr. Hopkins will also be connected with the Creighton Medical and Dental College.

Dr. Louise Miller, Moline, was fined \$5 and costs, Nov. 22, 1906, for violation of a health ordinance of Moline, which provides that physicians must report cases of contagious diseases within twenty-four hours after their discovery.

Dr. George Thomas Palmer, having severed his connection with the Illinois State Board of Health, will take up the practice of medicine in Springfield and will continue as editor of the *Chicago Clinic and Pure Water Journal*.

At the next session of the Legislature, the Coroner's Association of Illinois expects to enter opposition to the use of embalming fluids containing strychnin and arsenic, as the use of these drugs has, it is claimed, on many occasions, interfered with the determination of the cause of death.

O. B. Weeks, who has been conducting an advertising medical business in Springfield, was recently brought before Police Magistrate Shipp. He pleaded guilty to the charge of practicing without a license and was fined \$100. It is alleged that Weeks had never attended a medical school.

Three hundred and eighty-six inquests were held in Cook County during the month of December, 1906. Among these were 14 murders and 34 suicides. Railroads and street cars were responsible for 63. Anesthesia under operation, 2; alcoholism, 21; abortion, 2; burns and scalds, 7.

Dr. Charles J. Whalen, commissioner of health in Chicago, announces that the ambulance service in the police department has been officially turned over to the health department and will be manned by physicians. This makes a good opening for young physicians who wish experience in emergency work.

Dr. William J. Chenoweth, of Decatur, after a practice of more than sixty years, has announced that he will abandon practice January 1, and offers his office and professional outfit for rent. Dr. Chenoweth is 83 years of age, but is able to ride a bicycle from three to fifteen miles each day. He only abandons his practice because of defective hearing.

The Association of the Military Surgeons of the State of Illinois held its semi-annual meeting in Chicago, Dec. 13, 1906. At the morning session Dr. Billings held a clinic at Rush Medical College, following which was a business meeting and the reading of papers. Luncheon was served at the Presbyterian Hospital, and demonstrations were made on the cadaver by Col. Nicholas Senn and others. Dr. Senn entertained the association at dinner at De Jonghe's in the evening.

The Secretary of State at Springfield has licensed the following new corporations: Maywood Union Hospital, capital, \$5,000; to operate hospital; incorporators, D. W. Parker, Frank S. Righeint, V. E. Raible, Acme Medical Co., Chicago, capital, \$10,000; manufacturers and dealers in medicine. Incorporators, Claude A. Gay, Fred J. Wegg, G. R. Housinger. Fenger Memorial Association, medical research. Incorporators, Frank Billings, Ludvig Hektoen, Karl Deopfner.

MARRIAGES.

FRANK J. FARA, M.D., to Miss Julia M. Tupy, both of Chicago, November 21.

VINTON BOYINGTON, M.D., to Miss Eva Spaulding Price, both of Waukegan, Ill., December 12.

EVERETT H. BROADWAY, M.D., to Miss Arta V. Maginnis, both of Abingdon, Ill., December 12.

CHARLES A. COFFIN, M.D., Kewanee, Ill., to Miss Fannie E. Thorp of Guelph, Ontario. November 21.

WILLIAM HENRY STRATFORD, M.D., Austin, Chicago, to Miss Marguerite Ray, Chicago, November 21.

OTTO W. KNEWITZ, M.D., East St. Louis, Ill., to Miss Elizabeth Wildy, New Athens, Ill., November 3.

JOHN C. MILLER, M.D., Chalfinbridge, Ill., to Miss Cecil Stoeck, Pittsburg, Pa., at Columbus, Ohio, November 14.

J. WALTER FAHRNER, M.D., to Miss Grace Huntington, both of Joliet, Ill., at Grand Rapids, Mich., recently.

WILLIAM MICHAEL HARTMAN, M.D., Good Hope, Ill., to Miss C. M. Donaldson, Dayton, Ohio, at Macomb, Ill., December 1.

DEATHS.

JACOB SCHNECK, M.D., died at his home in Mount Carmel, Ill., December 18.

JONAS S. NEWBURGH, M.D., Chicago, was killed by a train in that city, Nov. 10, 1906.

ARTHUR RAMSER, M.D., died at his home in Chicago, November 15, from heart disease.

CORNELIUS HOGAN, M.D., died at his home in Chicago, December 7, after an illness of two weeks.

ERNEST J. MILLER, M.D., died at his home in Sycamore, Ill., November 19, from embolism, aged 52.

FREDERICK L. POND, M.D., died at his home in Chicago, from heart disease, Nov. 23, 1906, aged 71.

GEORGE MONROE EMRICK, M.D., died at his home in Chicago, December 12, from acute nephritis, aged 53.

JOSEPH H. FIRESTONE, M.D., died at his home at Freeport, December 14, from typhoid fever, after a short illness.

CHARLES WILMOT OLESON, M.D., a member of the Chicago Medical Society, died at his home in Lombard, Ill., December 1, aged 66.

WILLIAM HARRISON HIPPE, M.D., a member of the Illinois State Board of Health, died from pneumonia at his home in Chicago, December 19, aged 42.

LOUIS C. STRAKEL, M.D., for many years a practitioner in Belleville, Ill., died at his home in Chicago, from endocarditis, after an illness of one year, aged 67.

DR. FERNAND HENROTIN, one of the prominent practitioners of Chicago, died at his home from myocarditis, December 9, after an illness of three weeks, aged 59. He was born in Brussels, Belgium, Sept. 28, 1847, the son of Dr. Joseph F. Henrotin, a well-known practitioner of Chicago from 1847 to 1875. He received his education entirely in Chicago and, after his graduation from high school, entered Rush Medical College, from which he graduated in 1868. From 1868 to 1870 he was prosecutor at Rush Medical College; surgeon of the police department 15 years,

and for 21 years of the fire department. For several years he was chief surgeon of the First Brigade, Ill. N. G. He served for many years on the medical staff of Cook County Hospital, and was president of the medical board. He was connected with the Chicago Policlinic and served as professor of gynecology, secretary, and, later and until his death, as president of that institution. He was deeply interested in the new Policlinic Hospital, which is now nearing completion. He was senior surgeon at the Alexian Brothers' Hospital and gynecologist at the St. Joseph's and the German hospitals. For many years he was a member of the Illinois State Medical Society, Chicago Gynecological Society, American Gynecological Society, Association of Military Surgeons of the United States, Association of Military Surgeons of the State of Illinois, and in 1896 was president of the Chicago Medical Society. During his term of office, and under his special supervision and management, the reorganization was undertaken which has resulted in more than trebling the membership of the society. For many years he was secretary-general for America of the International Congress of Gynecology and Obstetrics. Dr. Henrotin was a gynecologist of known repute and a bold, yet conservative, operator. He is said to have been the first operator in America to perform vaginal hysterectomy for suppurative pelvic disease. He has written many monographs of importance, most of which are on gynecologic subjects. His chapter on ectopic gestation in "Practice of Obstetrics," by American authors, and his article on gynecology in the International Text-Book on Surgery are especially noteworthy. At the time he was stricken with his last illness he had practically completed the section on vaginal hysterectomy for Kelly and Noble's gynecology. Dr. Henrotin was an ardent advocate of higher standards of medical education and was especially interested in postgraduate work; he published a small brochure about two years ago on "Democracy of Education in Medicine," which set forth his advanced views on this subject.

NEW MEMBERS OF THE AMERICAN MEDICAL ASSOCIATION.

During the month of December the following members of the Illinois State Medical Society became members of the American Medical Association:

Asay, J. E., Rock Island.
 Boynton, L. V., Vermont.
 Carr, O. N., Verona.
 De Roulet, Alfred, Chicago.
 Dixon, W. A., Decatur.
 Dollear, A. H., Watertown.
 Dunn, B. B., Perry.
 Evinger, J. W., Paris.
 Griffith, B. A., Swan Creek.
 Hansen, O. A., Chicago.
 Knewitz, O. W., E. St. Louis.
 Leach, R. B., Joliet.
 Millard, H. A., Minonk.

Napheys, W. D., Jr., Chicago.
 O'Brien, C. L., Chicago.
 Renwick, J. C., Warren.
 Rosenblum, S. M., Chicago.
 Rosenstiel, Mary L., Freeport.
 Steely, Geo., Danville.
 Stockdale, Frank A., Coal City.
 Stolp, Rufus B., Kenilworth.
 Tremblay, J. J., Moline.
 Vandervort, Franklin C., Bloomington.
 Wynekoop, G. H., Chicago.
 Young, C. S., Geneseo.

NEW MEMBERS OF THE ILLINOIS STATE MEDICAL SOCIETY.

During the month of December the following physicians became members of the Illinois State Medical Society:

COOK COUNTY.

Bishop, Arthur.
 Blything, J. D.
 Budan, A.
 Clark, Chas. C.
 Dodge, Wm. L.
 Echols, Chester M.
 Gieraltowski, Chas P.
 Grabow, Paul E.
 Hanshus, J. Wm.
 Hoehrein, Geo. W.
 Hendricks, H. Porter.
 Little, Zack.
 Lee, George W.
 Lundgren, A. E.
 Millelsen, Agnes.
 McClintock, R. W.
 Metcalf, Walter B.
 Mercer, Frederick W.
 Nagel, F. E.
 Needham, Frank Stewart.
 Rohu, W. C.
 Roby, Harlow S.
 Svebakken, Otto O.
 Speed, Kellogg.
 Simpson, E. Grant.
 Wedelstead, Bismark.
 Wynekoop, G. H.

CRAWFORD COUNTY.

Carlisle, J. W., Robinson.
 Hardin, Chas. E., Trimble.
 Johnson, Robt. S., West York.

CARROLL COUNTY.

Camp, Chas. H., Chadwick.
 Gray, Alexander, Savanna.

CLINTON COUNTY.

Beehtold, W. G., Breese.
 DuComb, J. W., Beekmyer.
 DuComb, M. P., Keyesport.
 Fiseher, A. L., Hoffman.
 Fiseher, F., Bartelso.
 Klutho, J. C., Breese.
 Poos, G. H., Trenton.

DEWITT COUNTY.

Zeiglar, J. H., Farmer City.
 Price, H. E., Weldon.
 Sanderson, H. S., Waynesville.

DUPAGE COUNTY.

Simpson, E. Grant, Naperville.

HANCOCK COUNTY.

Howard, Florence, Hamilton.

JACKSON COUNTY.

Keesee, John, Carbondale.

LOGAN COUNTY.

Stults, B. F., New Holland.

MONTGOMERY COUNTY.

Driskell, Cecil R., Waggoner.

MONROE COUNTY.

Heidelberg, H., Hecker.
 Wilhelmy, August, Mayestown.

MERCER COUNTY.

Boyer, Walter N., Aledo.
 Kleinsmid, J. S., Aledo.

PEORIA COUNTY.

Hoit, J. D. C., Elmwood.

PUTNAM COUNTY.

Joyson, Harry B., Granville.
 McCormick, G. A., Hennepin.
 Simmons, William F., Magnolia.
 Weeks, MacCauley, Granville.
 Watson, R. L., Florid.

SANGAMON COUNTY.

Kelly, J. W., Springfield.

WINNEBAGO COUNTY.

Penniman, David, Argyle.

MISCELLANEOUS.

Crocker, George L., Twin Falls, Mont.
 McCormack, A. M., Bowling Green, Ky.
 Pomeroy, E. H., surgeon staff of Tennessee Coal and Iron Co., Monterey, Tenn.

ILLINOIS STATE MEDICAL SOCIETY

SECTION OFFICERS AND COMMITTEES.

SECTION ONE.

C. W. Lillie, E. St. Louis.....Chairman
 Ralph W. Webster, 100 State St., Chicago...
Secretary

SECTION TWO.

E. H. Ochsner, 710 Sedgwick, St., Chicago.
Chairman
 H. W. Chapman, White Hall.....Secretary

COMMITTEE ON PUBLIC POLICY.

Robert B. Preble, Chairman.
 Carl E. Black, Jacksonville.
 J. W. Pettit, Ottawa.
 The President and Secretary, ex-officio.

COMMITTEE ON MEDICAL LEGISLATION.

L. C. Taylor, Springfield.
 M. S. Marcy, Peoria.
 J. V. Fowler, Chicago.
 The President and Secretary, ex-officio.

COMMITTEE ON MEDICAL EDUCATION.

Frank P. Norbury, Jacksonville.
 J. F. Percy, Galesburg.
 C. L. Mix, Chicago.

COMMITTEE ON SCIENTIFIC WORK.

The Section Officers.
 The President and Secretary.

COUNTY SOCIETIES.

This list is corrected in accordance with the best information obtainable at the date of going to press. County secretaries are requested to notify THE JOURNAL of any changes or errors.

Adams County.

J. M. Grimes, Pres.....Camp Point
 George E. Rosenthal, Secy.....Quincy
 Alexander County.

Samuel B. Cary, Pres.....Cairo
 J. T. Walsh, Secy.....Cairo

Bond County.

John W. Warren, Pres.....Greenville
 J. C. Wilson, Secy.....Greenville

Boone County.

R. W. McInnes, Pres.....Belvidere
 R. B. Andrews, Secy.....Belvidere

Brown County.

S. J. Wilson, Pres.....Versailles
 F. E. McGann, Secy.....Mt. Sterling

Bureau County.

J. C. White, Pres.....Seatonville
 O. J. Flint, Secy.....Princeton

Calhoun County.

I. S. Berry, Pres.....Batchtown
 Stephen Platt, Secy.....Hardin

Carroll County.

G. W. Johnson, Pres.....Savanna
 H. S. Metcalf, Secy.....Mt. Carroll

Cass County.

C. M. Hubbard, Pres.....Virginia
 J. A. McGee, Secy.....Virginia

Champaign County.

C. M. Craig, Pres.....Champaign
 C. D. Gulick, Secy.....Urbana

Clark County.

Geo. T. Rowland, Pres.....Martinsville
 L. J. Wier, Secy.....Marshall

Clay County.

W. E. Burgett, Pres.....Louisville
 C. E. Duncan, Secy.....Flora

Christian County.

M. W. Staples, Pres.....Grove City
 D. D. Barr, Secy.....Taylorville

Clinton County.

T. E. Alsop, Pres.....Carlyle
 C. H. McMahan, Secy.....Carlyle

Coles County.

N. C. Iknayan, Pres.....Charleston
 O. M. Ferguson, Secy.....Mattoon

Cook County—Chicago Medical Society.

G. W. Webster, Pres.....Chicago
 R. T. Gilmore, Secy.....Chicago

Crawford County.

F. Dunham, Pres.....Robinson
 H. N. Rafferty, Secy.....Robinson

Cumberland County.

G. E. Lyon, Pres.....Robinson
 Will L. Smith, Secy.....Toledo

DeKalb County.

Geo. W. Nesble, Pres.....Sycamore
 C. H. Mordoff, Secy.....Genoa.

De Witt County.

J. M. Wilcox, Pres.....Clinton
 A. E. Campbell, Secy.....Clinton

Douglas County.

E. S. Allen, Pres.....Arcola
 Walter C. Blaine, Secy.....Tuscola

Du Page County.

(Affiliated with Cook County.)

Edgar County.

W. S. Jones, Pres.....Redmon
 W. H. Ten Broeck, Secy.....Paris

Edwards County.

W. E. Buxton, Pres.....Samsville
 J. H. Lacey, Secy.....Albion

Elfingham County.

T. J. Dunn, Pres.....Elliottstown
 C. F. Burkhardt, Secy.....Watson

Fayette County.

H. D. Smith, Pres.....Vandalia
 A. L. T. Williams, Secy.....Vandalia

Franklin County.

A. G. Orr, Pres.....Benton
 W. H. Smith, Secy.....Benton

Fulton County.

T. R. Plummer, Pres.....Farmington
 D. S. Ray, Secy.....Cuba

Gallatin County.

I. A. Foster, Pres.....New Haven
 J. W. Bowling, Secy.....Shawneetown

Greene County.

H. W. Chapman, Pres.....Whitehall
 H. A. Chapin, Secy.....Whitehall

Grundy County.

W. E. Walsh, Pres.....Morris
 H. M. Ferguson, Secy.....Morris

Hamilton County.

I. I. Hall, Pres.....Broughton
 G. N. Lyons, Secy.....McLeansboro

Hancock County.

S. M. Parr, Pres.....Fountain Green
 Wm. Blender, Secy.....Carthage

Hardin County.

F. M. Fowler, Pres.....Elizabethtown
 R. H. Willingham, Secy.....Elizabethtown

Henderson County.

I. F. Harter, Pres.....Stronghurst
 Ralph Graham, Secy.....Biggsville

Henry County.

J. E. Westerlund, Pres.....Cambridge
 H. W. Waterous, Secy.....Galva

Iroquois-Ford District.

D. W. Miller, Pres.....Gilman
 Robt. Lumley, Secy.....Watseka

Jackson County.

O. B. Ormsby, Pres.....Murphysboro
 W. C. Hill, Secy.....Murphysboro

Jasper County.

H. S. Hinman, Pres.....Newton
 Jas. P. Prestley, Secy.....Newton

Jefferson County.

J. H. Mitchell, Pres.....Mt. Vernon
 J. R. Whitlock, Secy.....Mt. Vernon

Jersey County.

A. K. Van Horne, Pres.....Jerseyville
 H. R. Bohannon, Secy.....Jerseyville

Jo Daviess County.

E. M. Bench, Pres.....Galena
 D. G. Smith, Secy.....Elizabeth

Johnson County.		Perry County.	
H. D. Larue, Pres.....	New Burnside	W. L. McCandless, Pres.....	Pinckneyville
H. O. Williams, Secy.....	Belknap	J. W. Smith, Secy.....	Pinckneyville
Kane-McHenry District.		Platt County.	
J. F. Bell, Pres.....	Elgin	W. F. Matson, Pres.....	Monticello
G. S. Allen, Secy.....	Aurora	B. L. Barker, Secy.....	White Heath
Kankakee County.		Pike County.	
B. F. Uran, Pres.....	Kankakee	J. D. McKinley, Pres.....	Barry
A. S. Kenega, Secy.....	Kankakee	R. H. Main, Secy.....	Barry
Kendall County.		Pope County.	
T. B. Drew, Pres.....	Oswego	Jas. Dixon, Pres.....	Hartsville
R. A. McClelland, Secy.....	Yorkville	W. A. Slim, Secy.....	Golconda
Knox County.		Pulaski County.	
J. H. Brown, Pres.....	Rio	Monroe, Doty, Pres.....	Grand Chalm
G. S. Bower, Secy.....	Galesburg	A. W. Tarr, Secy.....	Grand Chalm
Lake County.		Putnam County.	
E. H. Pomeroy, Pres.....	Highland Park	G. A. McCormick, Pres.....	Hennepin
A. C. Haven, Secy.....	Lake Forest	R. G. Dakine, Secy.....	Magnolia
La Salle County.		Randolph County.	
F. A. Wiley, Pres.....	Carlyville	C. G. Smith, Pres.....	Red Bud
W. A. Pike, Secy.....	Ottawa	A. D. Steele, Secy.....	Chester
Lawrence County.		Richland County.	
B. F. Hockman, Pres.....	Sumner	H. T. Watkins, Pres.....	Olney
C. P. Gore, Secy.....	Lawrenceville	E. H. Horner, Secy.....	Olney
Lee County.		Rock Island County.	
C. H. Ives, Pres.....	Dixon	F. H. Gardner, Pres.....	Moline
S. W. Lehman, Secy.....	Dixon	Ralph Dart, Secy.....	Moline
Livingston County.		St. Clair County.	
G. C. Lewis, Pres.....	Fairbury	Hugo Wangelln, Pres.....	Belleville
John Ross, Secy.....	Pontiac	J. W. Twitchell, Secy.....	Belleville
Logan County.		Saline County.	
L. L. Leeds, Pres.....	Lincoln	J. R. Baker, Secy.....	Harrisburg
H. S. Oyler, Secy.....	Lincoln	Sangamon County.	
McDonough County.		R. D. Barry, Pres.....	Springfield
J. B. Bacon, Secy.....	Macomb	E. R. Spicer, Secy.....	Springfield
McHenry County.		Schuyler County.	
(See Kane-McHenry District.)		A. W. Ball, Pres.....	Rushville
McLean County.		W. F. Harvey, Secy.....	Rushville
Thos. W. Bath, Pres.....		Scott County.	
O. M. Rhodes, Secy.....	Bloomington	J. W. Wels, Pres.....	Manchester
Macon County—Decatur Medical Society.		J. P. Campbell, Secy.....	Winchester
C. Chenowith, Pres.....	Decatur	Shelby County.	
M. W. Fitzpatrick, Secy.....	Decatur	C. L. Smith, Secy.....	Shelbyville
Macoupin County.		Stark County.	
J. M. English, Pres.....	Gillespie	W. T. Hall, Pres.....	Toulon
E. A. Bleuler, Secy.....	Carlinville	Arthur Parsons, Secy.....	Toulon
Madison County.		Stephenson County.	
G. W. Hinchee, Pres.....	Mors	R. J. Burns, Pres.....	Freeport
F. C. Joesting, Secy.....	Alton	R. F. Snyder, Secy.....	Freeport
Marion County.		Tazewell County.	
J. E. Schoonover, Pres.....	Salem	E. F. Kelchner, Pres.....	Delavan
W. W. Murfin, Secy.....	Patoka	C. G. Muehlmann, Secy.....	Pekin
Marshall County.		Union County.	
J. W. Potts, Pres.....	Lacon	S. C. Martin, Pres.....	Anna
J. A. Swem, Secy.....	Henry	H. J. Lyerly, Secy.....	Jonesboro
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ORIGINAL ARTICLES

THE TREATMENT OF SENILE GANGRENE.*

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CHICAGO.

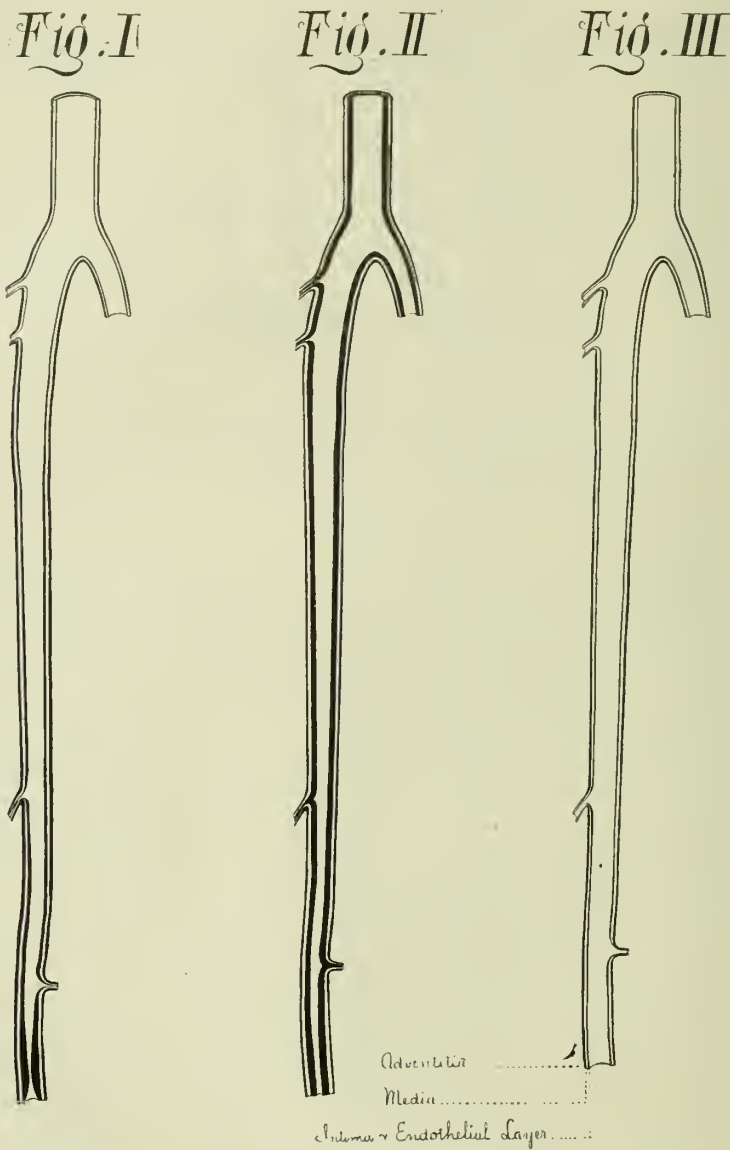
At various periods in the past there has been considerable difference of opinion as to the time when amputation should be resorted to in senile gangrene, and even now, if one will look over the literature of the subject, one finds almost every conceivable attitude taken in reference to this matter. As long ago as 1884, Jonathan Hutchinson, in his masterly article,¹ advised early high amputation in all cases of senile gangrene. At that time, this advice was undoubtedly most excellent, but surgery has in the meantime made such tremendous strides and conditions have changed so markedly that the same rule no longer applies. Besides, I believe I will be able to show that there are two distinct types of senile gangrene and that these two types should be clearly differentiated. When this is done I believe it will be relatively easy to determine whether early or late, high or low amputation be indicated in any individual case.

If the term senile gangrene is limited to mean that form of gangrene which is due to arteriosclerosis, as I think it should be, one can distinguish two primary classes, both from a pathological standpoint and for the purpose of rational treatment: First, a senile gangrene in which there may be, and usually is, a more or less generalized arteriosclerosis, but in which the lumen of a certain artery supplying the distal portion of an extremity suddenly becomes markedly constricted at a single point by a mural thrombus so as to cause complete or almost complete obliteration of the lumen, so that the circulation distal to this point of constriction becomes distinctly insufficient to nourish the part, while the artery proximal to the above point of constriction remains sufficiently patulous to insure reasonably good nutrition to the tissues supplied by it.

* Read at the Nineteenth Annual Session of the Southern Surgical and Gynecological Association, Baltimore, Md., Dec. 11, 1906.

1. Med. Chir. Trans., 1884, vol. lxxviii, p. 97.

This form of senile gangrene corresponds in its symptomatology perfectly with the cases described by Billroth,² under the heading, "Spon-



Mary L. Dickson

taneous Gangrene," but by him differentiated from senile gangrene because his cases occurred in patients with embolism due to endocardial vegetations.

2. Billroth, T.: Clin. Chir. Wien., 1871, p. 515.

Second, a gangrene due to general arteriosclerosis in which the lumen of the vessel becomes progressively smaller and with it the nutrition of the limb becomes poorer and poorer the farther distally one goes. The vitality of the proximal portion of the limb is only slightly impaired, but this becomes more and more pronounced, the farther one progresses distally until a point is reached where the red streaks appear, then brownish discolorations follow, which finally merge into the gangrenous area.

In order to make myself more clear, I have had a semi-diagrammatic drawing made of the longitudinal section of a normal posterior tibial artery, another in which the lumen of the vessel becomes progressively smaller and one showing a mural thrombus causing almost complete obliteration.

Figure 3 is adapted from Spalteholz and Schaefer, and in it the thicker portion of the wall consists of the media and adventitia, while the endothelial layer and the intima furnish only a very small portion of the thickness of the vessel wall. In Figures 1 and 2 the media and adventitia are represented as unchanged because ordinarily the greatest change occurs in the endothelial layer and the intima. In Figure 2 the thickness of these two layers is more evenly distributed, and as the lumen of the vessel becomes smaller this thickening encroaches upon it until it becomes so reduced in caliber that the artery is no longer able to supply the member with sufficient blood. In Figure 1 this change is represented as occurring more markedly in one place as a mural thrombus.

I wish to emphasize that the sketch is only semidiagrammatic, especially in reference to the difference in the condition of the branches of the posterior tibial arteries in Figures 1 and 2. In Figure 1 the lumen of these branches is represented as not deviating markedly from the normal, while in Figure 2 the lumen of the proximal branches is considerably encroached upon, while the distal ones are entirely obliterated. I have not had an opportunity to demonstrate this to my entire satisfaction, because it is extremely difficult to trace these branches, and the specimens that have been at my disposal have been very limited in number, but so far as my observation goes in this respect, it is as represented by the figures, and I believe that clinically the presence or absence of collateral circulation has much to do with the progress of the disease and with its clinical manifestations.

Of course, there are all shades of transition between these two primary classes, and yet, the two types are sufficiently distinct to be worthy of differentiation, especially as the recognition of these differences points the way to the successful treatment of senile gangrene.

That these two classes of cases actually occur in practice I have been able to demonstrate on several occasions. I have had an opportunity to examine two amputated lower extremities, amputated high, when there had been a distinct line of demarcation. In these cases I found the vessel of reasonably good caliber until a marked constriction was reached several inches above the line of demarcation. The second type is well illustrated by the third history which I give below.

In both forms of senile gangrene it is very important to protect the part against unnecessary traumatism, undue pressure, excessive variations in temperature, and above all, infection while waiting for the proper time to operate. This is best accomplished by dressing the limb in dry, sterile gauze and absorbent cotton, having the prominent parts well padded and the bandage loosely, but evenly applied.

The first class of cases is more apt to occur in younger individuals with greater general vitality. In these cases the marked narrowing causing the complete occlusion frequently occurs quite suddenly, the line of demarcation forms rapidly and distinctly, the phagocytes are active and the organism often has sufficient vitality to successfully amputate the gangrenous extremity. It takes a considerable amount of energy on the part of the organism to successfully do this, but because of the good general health of these patients one can safely wait until the line of demarcation is distinct and then hasten matters and conserve the energy of the individual by amputating directly through the line of demarcation and allowing the wound to heal by granulation.

As an illustration of this class of cases, permit me to give the essential points in the history of a case which was under our care in 1901 and, 1902, and operated on by my brother, Dr. A. J. Ochsner, April 14, 1902:

A man then 82 years of age gave the history of having bruised his left great toe on a bathtub four months previously. A few days later he began to have pain and noticed a dark red discoloration of the toes extending half way up the foot. The discoloration of the foot gradually subsided, but that of the toes became more pronounced and in the course of a few weeks the toes had become black and gangrenous.

Condition on admission April 13, 1902: Well nourished, general condition good, functions normal, temperature 98°, pulse 70, regular and strong, left foot discolored to level of metatarsophalangeal junction, line of demarcation distinct, several small ulcers on great toe and second toe. The patient was anesthetized, the foot elevated as high as possible and the toes amputated without an Esmarch, making the skin incision through the line of demarcation and the bones disarticulated at the metatarsophalangeal joints. No stitches were applied, the wound was dressed dry and allowed to granulate. The patient left the hospital, cured, June 22, 1902. About two months after leaving the hospital I met him walking without a limp, and, though feeble now, is still living and has had no further trouble of this kind.

On Aug. 5, 1906, I saw a patient in consultation with Dr. J. F. Percy and D. E. Hertig of Galesburg, Ill., whose condition I believe is very accurately represented by Figure 1. He was 80 years of age, and when examined was suffering from a gangrene of his little toe on the left foot. He had almost no generalized arteriosclerosis, his left popliteal artery was perfectly soft and the pulse strong, the posterior tibial as it passes around the internal malleolus was somewhat arteriosclerotic and the pulse almost imperceptible, and his attending physician stated that several weeks previously the pulse could not be felt at all at this point. There was no cardiac lesion, and this with the fact that the condition had been about

two months in developing practically excluded the possibility of an embolus. The patient was placed on general tonic treatment, the Bier active elastic constriction of the veins of the leg was continued, and in course of time the gangrenous portion of the extremity was exfoliated, the defect healed by cicatrization and epidermization, and the patient has made a perfect recovery.

In the second class described, conditions are very different; here the arteriosclerosis is pronounced, even high up in the vessel, the greater portion of the extremity may be poorly nourished, so poorly in fact that in the lower extremity, for instance, the whole leg may be on the verge of gangrene. In these cases there is little or no tendency to the formation of a distinct line of demarcation. Instead, reddish or bluish lines run up the dorsum of the foot and onto the anterior and lateral surfaces of the leg. In addition, the general vitality of the patient is so reduced that it has little or no power to exfoliate the gangrenous member, and in these cases high amputation should be promptly resorted to before the general strength of the patient has unduly suffered. Nature's attempt at exfoliation of a gangrenous extremity is accompanied with a great deal of pain, which, plus the actual energy required, takes more strength than this class of patients have at their command, and consequently it is important to amputate just as soon as the surgeon is able to differentiate.

In amputating for this condition there are several points worthy of especial consideration. The operation should be performed without an Esmarch constrictor, because irreparable damage can be done to arteriosclerotic vessels with it. Vessels that might otherwise be able to supply sufficient blood to the part may be so compressed, indented and damaged by the constrictor as to be unable to satisfactorily perform their function after the constrictor has been removed. Besides this, it is a very severe insult to all the soft tissues, and may be just the one thing which will cause the gangrene to spread. The cutting off of the blood supply for ten, fifteen or twenty minutes may so lower the vitality of the parts as to make it impossible for them to subsequently revive. Instead of using an Esmarch, it is much better to lower the head and body as far as possible and to elevate the extremity which is being operated upon. In this way the foot, for instance, can easily be held three feet higher than the heart, and if the vessels are grasped quickly as they are cut, an amputation can be made at the point of election in one of these cases without losing more than two ounces of blood. This position during the anesthetic has one other great advantage: it prevents the mucus from being aspirated and reduces materially the danger from postoperative pneumonia.

The amputation must be done sufficiently high. If the incision is made too low, it passes through poorly nourished tissue, which has no power to regenerate, and in addition to causing the patient the shock of the operation, one is likely to convert a mummified, aseptic extremity into a moist, septic stump, which will tax the patient's strength much more severely than the former condition. The most painstaking asepsis is necessary. Healthy, vigorous tissue, as we all know, can successfully combat slight infections, while devitalized tissue is practically powerless to do

this, hence the necessity of special precaution when operating for senile gangrene.

The operation should be done with as little trauma as possible. The knife should be very sharp and the tissues of the stump should be handled as little and as gently as possible, both during the operation and in the subsequent dressings. The operation should be as rapidly and dexterously performed as is compatible with gentle manipulation, the skin and periosteal flaps should be amply long, the bone being cut very short. The ends of the bone should be covered with periosteum, held in place by one or two fine unchromicized catgut stitches. The skin flaps should either be held in place by proper gauze dressings or by only a few silk-worm gut stitches. The drainage must be ample, as nothing is more likely to cause an extension of the gangrene than undue tension from pent-up wound secretions. However, free drainage should be secured by little suturing in preference to any of the drainage devices, because all of these cause more or less pressure and are likely to favor gangrene. The least possible amount of general anesthetic that will keep the patient comfortably asleep should be administered. I am convinced that this point is of the very greatest importance, as it has much to do with postoperative shock. If the patient is severely shocked for ten or twelve hours following the operation, the parts will not be supplied with sufficient arterial blood and the gangrene is almost sure to extend. The patient needs all the strength available the first forty-eight hours after the operation, not only to supply the part with sufficient arterial blood, but also that he may have sufficient strength to sit up in bed with a head rest the day of the operation and be placed in a wheel chair for a short interval twice a day every day thereafter until he is able to walk. The points above enumerated all tend to preserve the general strength of the patient and especially to protect the already devitalized extremity.

In all the articles which I have read it is very evident that a confusion has existed in regard to the treatment of senile gangrene, and that a diversity of opinion has been held and expressed in the past. In none of the articles which I have been able to find has there been a clear differentiation made between the two classes above outlined. In only one was the use of the Esmarch constrictor interdicted, while in several operations reported its use was recommended. Most authors agreed with Jonathan Hutchinson in advising early amputation through the middle of the thigh in all cases, while others favored delay in certain cases without apparently having a clear conception in which cases early amputation and in which cases delay should be practiced.

As an example of the above method of treatment permit me to report the following case, No. 17,761, male, age 80 years, tailor, who came under my care Feb. 22, 1906, with a history that about one year ago he began to have pain in the left lower extremity, the pain becoming worse constantly. About six weeks before he came under my care his left leg and foot began to swell and the pain became more intense. Three weeks later discoloration appeared on his toes and steadily progressed upwards. He was otherwise in fairly good general condition, but suffering severely

from pain in the left lower extremity. All of the palpable arteries were literally as hard as pipe stems, heart sounds clear, cardiac dulness slightly increased, pulse irregular. Toes of the left foot black, gangrenous, with skin abraded in various places, reddish and brownish streaks passing up the dorsum of the foot to a little above the ankle joint, no clear line of demarcation. Four days later the patient was anesthetized and an amputation through the middle of the leg was performed according to the method above outlined. Barring a small area of necrosis which subsequently had to be skin grafted, the patient made an uneventful recovery.

In connection with this case I would say that I believe in this type of gangrene the amputation must be made at a point sufficiently high in order to reduce to a minimum the possibility of the necessity of a secondary amputation. Just where this point will be will depend upon the individual case, but in most cases a thigh amputation will be required, and in that instance I should personally favor a transcondyloid or so-called Carden's operation. The Gritti or Gritti-Stokes operations have never appealed to me in these cases, because I have feared that the nutrition of the patella would be insufficient, and I have always tried to eliminate every feature that might interfere with rapid healing. The one objection to the thigh operation is that these old patients with thigh amputations have great difficulty in learning to walk with artificial limbs. Besides, many of them are poor and do not feel that they can afford the outlay of an expensive artificial leg. For these reasons it is desirable to make the amputation at the place of election, a hand's breadth below the knee joint, wherever the vitality of the tissues will warrant such a low amputation. Patients over 80 years of age, as the one whose history I gave above, learn to use a peg leg on such an amputation stump very satisfactorily in a few days and derive great comfort from it.

In conclusion, I would again like to emphasize the importance of differentiating between these two primary classes. Though the primary discoloration may be just as extensive in Class 1 as in Class 2 at the onset, the reddish streaks gradually recede after the first few days, and in a pronounced case of the first type a definite line of demarcation forms by the end of two weeks, with the skin proximal to this line of demarcation in a reasonably good, healthy, vigorous condition. All the cases in which there is marked arteriosclerosis in the main artery supplying an extremity at a point a considerable distance proximal to the area of gangrene and in which the discoloration is progressing instead of receding, and in which a fairly definite line of demarcation has not formed at the end of two weeks, should be grouped with Class 2 and an immediate operation resorted to. By recognizing the difference between these two pathologic conditions and adopting the treatment accordingly one can frequently save a useful extremity, as in the first two cases reported, while in applying the treatment outlined in Class 2 in all cases which do not clearly come under Class 1 one can, I am sure, greatly reduce the mortality.

PNEUMONIA.*

R. H. BRADLEY, M.D.

MARSHALL, ILL.

In this paper I shall confine myself to lobar or croupous pneumonia, now regarded as one of the acute infective diseases, the different lesions and clinical symptoms being the direct result of the action of a specific virus. I shall not enter minutely into the bacteriology of the subject, except to say that the pneumococcus discovered by Sternburg in 1880 and rediscovered by Frankel in 1884, is generally believed to be the causal agent in almost all cases of pneumonia. Dr. Washburn found virulent pneumococci in 30 per cent. of healthy individuals. The existence of the virus in the mouths and lungs of healthy persons seems obviously to have a very important bearing on the origin of the disease. A chill may simply lower the resisting power of the lung to the pneumococcus invasion, and, as there is little or no defense against this invasion, once the germs have reached the alveoli, one can readily understand why pneumonia should be one of the most widespread and common of acute diseases. Some diseases are particularly liable to be followed by pneumonia. Influenza, typhoid fever, measles, etc., any condition of depressed vitality due to fatigue, alcoholism or exposure, renders the person much more liable to the disease. To some, the designation pneumococcic infection is preferable to croupous or lobar pneumonia, chiefly for the reason that the inflammatory lesions in the lung may be the smallest part of the process going on in the body and because the lung involvement has not much to do with the severity of the illness of the patient.

It is important to bear in mind that the local lesions in the lung are accountable for some, but not for all of the patient's symptoms; that the patient, ill with lobar pneumonia, is suffering from a general infection with the pneumococcus; that organs other than the lungs may reveal morbid lesions, at least as well marked as the local pulmonary lesion; that in some cases these other lesions are susceptible of recognition, and that the severity of the clinical manifestations in a given case depends upon the virulence of the infecting pneumococcus and the resistance afforded by the patient. Thus we find that the extent of the local lesions, be they in the lung or elsewhere, bear no necessary relation to the severity of the general symptoms; that these, on the contrary, are an expression of the toxemia. The greater the virulence of the infecting micro-organisms, and the less the tissues of the patient are able to neutralize the toxins, the greater the resulting toxemia. Hence it is that, of two patients with the same extent of lung involvement, the one will present little or no toxemia, while the other will be extremely toxic. The observation of large numbers of cases has taught that the dangers to be apprehended in pneumonia are due almost entirely to toxemia, and that in 90 per cent. of the fatal cases death results from toxemia and not from the extent of lung involvement or mechanical embarrassment of the circulation.

* Read before the Section on Medicine of the Illinois State Medical Society, at Springfield, May 15-17, 1906.

In a large majority of cases the onset of the disease is sudden, with the well-known chill or rigor and abrupt elevation of temperature, accompanied with headache, malaise, loss of appetite and aching of the limbs. The pulse-respiration ratio is commonly three to one, instead of four to one. The face is flushed, there is usually a dry cough. In most cases, if there is any expectoration, it is rust colored or it may be red with blood. In these cases there is quite a severe congestion. The skin is dry. Auscultation usually reveals dry or sibilant râles, and sometimes mucous râles are heard in the portion of the lung affected. Percussion usually shows some dulness in the affected part. It is very important in all cases of suspected pneumonia to make a very careful examination, as the kidneys and other organs are very liable to be affected also.

That the right lung is much more often affected than the left, the proportion being about seven to three, is probably due to the fact that the right bronchus is larger and less oblique than the left and more continuous with the trachea. The indications for treatment should be sought in and our treatment based upon: 1. The diagnosis of the case; 2, our conception of the morbid process; 3, the results of an examination of the different organs and structures of the body; 4, suggestive facts that we may elicit from the social history, the family history and the previous medical history of the patient.

Perhaps the treatment of few diseases has changed so much in the last fifty years as that of pneumonia. Formerly blood letting and tartar emetic was the sheet anchor in the treatment of pneumonia, but we have swung to the other extreme of the pendulum and now try to support the patient and neutralize the toxins by the use of cardiac and nerve stimulants and tonics, antiseptics and eliminants. The older physicians held very tenaciously to the antiphlogistic idea in the treatment of acute diseases, especially in pneumonia. But now the theory underlying the employment of so-called antiphlogistic measures is quite forgotten or only regarded as "part of the historic lumber of a remote past." So far as drugs are concerned, very few cases of pneumonia are treated in the old-fashioned manner. The place of active treatment has been gradually taken by what may be called the expectant method, and this is based upon the fact that nothing will cure the disease, that it is spontaneously curable in most cases, and that the aim of the physician should be to act the part of a skilful pilot until the crisis of the attack is passed. It is now almost universally recognized that the key of the position lies in the capability of the heart to carry on its work in its handicapped conditions, and, in this connection, the evil effects of high temperature and that which causes it upon the heart muscle must not be forgotten. At the same time it must be admitted that cases not infrequently prove fatal in which there has been no very high temperature. The main indication, therefore, would be met by adopting a course of treatment which, whether stimulating or tonic, is not depressing on the heart, and quinin, strychnin and nitroglycerin seem to me to be the most useful, so far as drugs are concerned. We find many cases in which calomel appears to have a very happy effect, especially where the tongue is heavily coated and dry or

the patient is vomiting bilious matter. It also has a good antiseptic action on the mouth, throat and intestinal tract. To lower the high temperature, I regard the use of antipyretic drugs as worse than useless, on account of their depressing action on the heart, which is just the thing we wish to avoid. We have a much better means of lowering or checking what we may consider a dangerously high temperature in the application of cold to the surface, either by the ice bag, the cold wet pack or, in extreme cases, the cold bath. Digitalis is discarded in these cases by many, as they think it produces nausea or even vomiting, lessening the desire for food, thereby acting as a depressant. I very seldom use it in my cases of pneumonia. For the acute pain or stitch in the lung, many physicians use dry cupping, but I have given small doses of heroin, opium, which, in the opinion of many physicians, should not be given in pneumonia at all, on account of the marked tendency this drug has to cause increased cyanosis and collapse, perhaps from its paralyzing action upon the respiratory center.

A supporting and in the widest sense stimulating line of treatment will be found to give the best results. In my experience alcohol is not indicated nor needed in most cases, and should not be prescribed in a routine way, but when it appears to be clearly required by the condition of the pulse or temperature and tongue it is very valuable and should be given in proportion to the age and other conditions of the patient. I believe the temperature of the room, in cases of pneumonia, should be kept at 60 degrees or not over 65 degrees. I remember a number of cases in which it was very clearly demonstrated. In the same family having two patients suffering from pneumonia at the same time, one of them lying in a room where there was a stove and the temperature of the room was at times 75° F. degrees and higher, and the other one in a room where there was no fire and the temperature so low that the attendants had to use extra wraps in order to be comfortable, the patient in the cold room always had lower temperature and made a more rapid recovery. Some physicians have given large doses of quinin in pneumonia and claim very good results, but in my own experience I have never used very large doses of quinin.

In my cases of pneumonia in children under 12 years of age I very seldom give them any quinin internally, but use it dissolved in alcohol as a bath every eight or twelve hours with very satisfactory results. I give, in nearly all my cases of pneumonia, calisaya, iron and strychnin, and in adults quinin, iron and strychnin. I generally find indications calling for calomel in the first few days of the attack. I have never been able to formulate any routine course of treatment for my pneumonia patients, but try to meet the indications in each case as they present themselves. The question is often asked, Is there any specific for pneumonia? So far the answer is no. Some physicians have tried the serum treatment, but with no satisfactory results, as it neither hastened the crisis nor shortened the length of disease, doing no harm but no appreciable good. As to the results of different methods of treatment, we might all do well to bear in mind what Dr. Osler says: "Certain measures are believed

to have an influence in arresting, controlling or cutting short the disease. It is very difficult for the practitioner to arrive at satisfactory conclusions on this question in a disease so singularly variable in its course. How natural when, on the third or fourth day, the crisis occurs and convalescence sets in, to attribute the happy results to the effect of some special medication. How easy to forget that the same unexpected early recoveries occur under other conditions.

THE LAW AS TO EXPERT TESTIMONY IN ILLINOIS.

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CHICAGO.

There is a good deal of variance in the different states as to what service the courts can compel from physicians without special recompense. A Michigan legislature has passed specific laws making it illegal for physicians to receive extra compensation for expert testimony. Such a law can scarcely be made constitutional by any sort of twisting. In the State of Indiana the other extreme is taken (59 Indiana, I. Buckman vs. State). Judge Magruder, in delivering the opinion of the Supreme Court of Illinois in Dixon vs. the People (168 Ill., page 179), said that they did not follow the opinion of the Indiana court; that they accepted that of the Alabama Supreme Court (53 Alabama, 389, *ex parte* Dement) and other decisions based on it (36 Minn., 535; 5 Texas Ct. App., 365; 3 Colorado Ct. Appeals, 177; 60 Ark., 204) as being the better law. Rogers (Expert Testimony, second edition, p. 424) says that the decisions of the courts are about equally divided, but that the tendency of the later opinions is toward the view that a physician, called as an expert in either a civil or criminal case, is compelled to testify and that for so doing he can recover no more than the usual *per diem* paid witnesses as to fact. In the cases decided in Illinois since the Magruder decision the courts have accepted that decision as the law of Illinois (182 Ill., October, 1899, West Chicago R. R. vs. Marks) without manifesting any disposition to take up the question anew. Therefore, it can be assumed that for several years at least the Magruder decision will be the rule in the State of Illinois. It is not probable that there will be an enactment of law specifically covering it either way, nor is there any likelihood of so comprehensive a review of the entire question as would serve to inaugurate a new rule of procedure.

The opinion starts by saying that this question, somewhat modified, has come to the State Supreme Court several times, but in each instance the conditions were complicated. For example, in Wright vs. People (112 Ill.) the doctor was a witness as to fact, and a considerable part of his testimony was fact testimony while some was expert testimony. The case of Dixon vs. the People is the first in which the adjudication can be said to bear solely on the matter of the expert witness.

The common law does not concern itself with witness fees. Therefore, the only witness fees which any court can assess are those which have been specifically provided for by statute. The statutes do not provide for unusual expenditures as compensation for the services of expert witnesses. Therefore, the trial court could not order any fees except the ordinary witness fees. So that the matter resolves itself into the right of the court to demand that an expert testify concerning things in which he is not a witness to fact.

The court says that the question of loss of time can be eliminated, as all courts are agreed that this is not a basis of compensation. The contention then narrows itself to the legal standing of expert qualifications. That the state can take his property from a man is well recognized. But two qualifications are of importance: first, the property can only be taken for the use of the state or the use of semi-public organizations, e. g., public carriers, such as railroads. If this rule held as to expert testimony, then it could be compelled in criminal cases, but not in civil cases between individuals. The second point is that the property appropriated must be adequately compensated for. Under the first of these qualifications experts could be compelled to testify in criminal cases and in civil cases where the state was a party—only, however, for the state in each instance. Under the second, the expert could be compelled to testify, but he must be adequately compensated. One need not further discuss these qualifications, since the courts hold that expert information is not property. The courts, however, do hold that labor is property, and, in order to sustain a semblance of validity in the distinction, say that, while capacity for labor is not property, the act of labor is property. The opinion of the Supreme Court of Illinois is that an expert can be compelled to testify, but he can not be compelled to make special preparations to testify. For example, he can not be compelled to make an autopsy or microscopic examination or to study his anatomy, legal medicine or other books or specimens preparatory to testifying as an expert. We will amplify this point at length at another place in this discussion. If physical labor is property, it would seem certain that it should conform to the legal standing of property, namely, that it could only be compulsorily taken when the interest of the state demanded and that it must be paid for upon a proper estimation of value.

If physical labor is property, how is a distinction to be maintained between it and mental labor? As above indicated, the plan proposed and maintained in the decisions which discriminate between them is that the courts can compel an expert witness to testify as an expert, but that they can not compel him to specially prepare. If by any chance he has specially prepared he can be compelled to testify, making use of such special information or preparation. The law relating to summons bears so materially on this question that it should be discussed here. A witness can be subpoenaed to go into any court within whose jurisdiction he is at the time the subpoena is served. If the subpoena issues from any state court in Illinois he must obey it. This means that a summons from a court sitting in Sangamon County is valid in Cook. Such a subpoena would not

be valid outside of Illinois. If the man served was a citizen of Indiana and was passing through Illinois when it was served it would be valid. If he was a citizen of Sangamon County and the paper was served at Hammond, Ind., it would not be valid. A subpoena can be validly served on Sunday or other holiday. It can be served by almost any sort of an official. If the case is a civil suit the summons must be accompanied by a tender of witness fees and mileage. If it is a criminal case summons is valid when no fees and no mileage is tendered. Either the state or the defense can summons a witness without tendering fees or mileage and the witness must obey. The theory is that processes of law are for the good of the commonwealth and that the individual must sacrifice his rights where they conflict with the common good. The necessity for such provision can be readily understood and the occasional injustice which it works in the case of a witness to fact is not considerable enough to call for remedy. It is supposed that no one individual would have personal knowledge pertaining to questions at issue so frequently that the rights of the court would seriously menace his rights as an individual and work great injustice to him. No one man in a lifetime would witness many murders, or be cognizant of facts pertaining to many murders. These considerations of justice and common sense, however, do not apply to expert witnesses. Let us say that a medical man in Chicago had spent his life in studying the impulses of emotionalism. Such a man can be summoned to go to Cairo in a case, no facts of which have come to his attention. He must go for one dollar and sixty cents a day and he must advance his expenses in getting there. At once upon being released from service at Cairo he can be similarly carried to Galena, etc. This right is not limited to the prosecution in criminal cases. The defense has exactly the same rights. In civil cases the law is practically the same. Assuming that two men at Quincy are quarreling over some property right in which the community has no interest, the services of any expert in any part of the state can be demanded by either party for mileage fees and a nominal *per diem*. Common sense and every-day justice, as well as that community interest which demands proficiency of the individual—all these considerations demand a modification of the law of summons as regards expert witnesses. The illustrations cited are extremes and probably do not amount to much practically. In fact, the entire matter is a tempest in a teapot. Dr. Dixon had a much better remedy than carrying his case to the Supreme Court. The courts have ruled that, while they have the right to demand that the witness testify, they have no right to force him to prepare to testify. So long as a man has violated no law he can not be compelled to work for the state and certainly not for interested individuals. When a witness is subpoenaed to testify as an expert he is not required to confer with the attorneys or to post up. No man is a witness of value unless he has carefully studied up every point which is liable to arise while he is on the witness stand. The lack of value of curbstome opinions is universally recognized. If the medical witness testifies to what he certainly knows and says that he does not know when he does not,

and makes no preparation, he will not be of value to the side putting him on the stand or to anybody else. In fact, the attorneys will not put him on the stand unless they have had a chance to talk with him. An unprepared expert witness will not help the case of the side relying upon him. Therefore, the remedy for the subpoenaed expert is to respond as an unprepared expert. This remedy is absolutely in his own hands and can not be taken from him by any court if he is purely an expert witness. If he is a witness as to fact or if he has previously made preparation, e. g., an autopsy or microscopic examination, he is compelled to tell what he knows and also his opinion, where he has opinions, but he should not allow himself to be forced, bullied or cajoled into expressions of opinion where he has not opinion or where the ground laid for an opinion in his judgment is inadequate for such opinion.

Justice Magruder, in delivering this opinion, departed from the citation of precedent to the degree of offering two arguments, neither of which do credit to his intellectual acumen. The first was that when the court appoints a lawyer to defend a case, the lawyer has no right to recover for his services. The proper theory of that case is that every lawyer is an officer of the court. His admission to the bar gives him many rights and puts upon him many duties, of which this is one. The cases are in no sense parallel nor does a decision of the one in any way bear on the other.

The second was that a decision the other way, in the case of *Dixon vs. the People*, would establish a precedent contrary to the public policy in that expert testimony would go to the highest bidder. In our judgment, this decision has no bearing on public policy. If it has any it would be prejudicial, as it tends to make experts incompetent, misleading and oftentimes unavailable for the courts. But the decision does not bear on these points, in our opinion. The statement that testimony would go to the highest bidder bears on the entire question of expert testimony and has no special relation to the point which he was deciding, viz., the right of the court to force expert testimony. As to forced expert testimony, as distinguished from expert testimony as a whole, the argument of the court is not germane.

The fact is that there is a question of public policy involved, and that it is responsible for all of the decisions on this question. We are not infrequently right without knowing why. It is this: If medical expert testimony should perforce receive special compensation, then must all opinion testimony do so. This includes real estate experts, business men, bankers, accountants, chemists, etc., as well as doctors. Opinion, interpretation of fact, is so interwoven with fact that a precedent established would lead to impossible conditions. The decision stands for good public policy without, however, stating the reasons.

In the meantime the medical man can protect himself against ruinous use of his time by being an unprepared expert and, above all, by declining to confer with the compelling attorneys.

SURGERY OF THE GALL BLADDER.*

M. W. BACON, M.D.

CHICAGO.

Some personal experience in surgery of the gall bladder and bile ducts and reports of a few cases selected from among those operated upon may be of interest. My experience is limited to about one hundred cases. Of these, some have been operated upon in private houses, with the aid of trained nursing, in some cases, and some without; the others were attended in hospitals. A few were in St. Anthony's Hospital, one in Wesley Hospital, three or four in St. Bernard's Hotel Dieu; the balance were divided between the Englewood Hospital and St. Margaret's Hospital, Hammond, Ind. The technic employed was that acquired from witnessing the various operators of this city and from a few operations seen while on a trip abroad, and perhaps also from a personal technic gained from experience. Drainage has been used in all cases where the gall bladder has been opened for inspection of its contents, and wherever possible the gall bladder, in anchorage, has been stitched to the peritoneum only. Of the whole number operated on there have been three deaths, or about 3 per cent. The first fatal case was the first case operated on. It was a case of empyema of the gall bladder, which contained a large quantity of pus and a great number of stones. The patient was in a thoroughly septic condition when operated upon. In the light of farther experience, this case would have undoubtedly recovered. The second case was a second operation done upon the same patient for a complete removal of the gall bladder. This patient did well for four days and died suddenly, probably from embolus. The third was a lady about 60 years of age, on whom there had been two previous operations, and, upon opening the abdomen, we found very extensive adhesions. In separating these as carefully as possible from the gall bladder, a large blood vessel was opened, and the patient died from hemorrhage.

I do not intend to go extensively into the etiology and pathology of the gall bladder and gall ducts or the anatomy and physiology of them. but rather to give a brief synopsis of the various conditions calling for surgical intervention, and, as far as consistent with the safety and recovery of the patient, the best methods to be employed for the relief of these pathologic conditions. The position of the gall bladder and its relation to the external abdominal wall vary greatly. Incisions beginning at the lower margin of the ninth costal cartilage and carried downward along the outer margin of the right rectus muscle directly expose the normally placed gall bladder, but, as we usually have to deal with an abnormal gall bladder, with perhaps extensive adhesions, the incision in many cases may have to be considerably varied to meet the existing conditions in individual cases. My practice has been to make the incision along the outer border of the rectus muscle, and, if necessary, extend it upward along the costal margin toward the left and downward toward the right.

* Read before the S. W. Medical Society, Nov. 6, 1906.

This is a modification of the Bevan incision and leaves little to be desired for exposing the parts to be operated on.

The size of the gall bladder is as variable as its position. I have found it varying from the size of a child's head to no larger than a cherry, or to almost complete obliteration. In operations about the gall bladder it is well to have in mind the blood supply and its distribution. This comes from the cystic artery, which divides at the neck of the gall bladder; one branch extends along the free side of the gall bladder and the other along the side of the gall bladder next to the liver. We can readily see that from the free distribution of the blood supply, especially at the neck of the gall bladder, the complete enucleation is not unattended with considerable danger of extensive hemorrhage.

There exists in the lumen of the cystic duct several folds, called the "Heister" folds, after their discovery. This arrangement makes it very difficult to pass a sound from the gall bladder through the cystic duct to the common duct, as the probe will pass into one of these diverticula rather than into the duct channel. The cystic duct is often bent at a sharp angle, as it enters the hepatic duct, and at this point there is often an enlarged lymphatic gland, which might easily be mistaken for a calculus. Other glands are also situated along the common duct and portal vein and might mislead the surgeon to think the common duct was filled with calculi.

Both the cystic and common ducts are easily exposed if there are no adhesions present, but adhesions may so change the normal relations that the gall bladder may be the only guide, and even this in some cases is practically obliterated.

Another guide is the foramen of Winslow. A finger introduced through this will enable the operator to lift forward the common duct and make it more accessible. Langenbuch has suggested a third way; that is, to find the pylorus and from it as a starting point find the common duct. In my own personal experience, I have been able, with a free large opening, to find the common duct by tracing down from the gall bladder or by the help of the foramen of Winslow.

The common duct, for convenience, is divided into three portions: one above the duodenum, one behind the duodenum and one within the pancreas. The first portion, about and one-quarter inches in length, is the most favorable for incisions.

Opinions differ largely as to the functions of the gall bladder, some authors believing it is simply used as a reservoir, while Murphy believes it is to regulate tension, the same as an air chamber does in an engine. Opinions as to jaundice vary even more largely than opinions as to the functions of the gall bladder. In diseases of the biliary passages there are two forms of icterus, an inflammatory and a lithogenous icterus. The first is due to swelling of the mucous membrane of the bile passages and may follow affections of the gall bladder, since swelling of the mucous membrane easily extends into the common and hepatic ducts. Lithogenous jaundice is due to obstruction of the common duct by calculi. Jaundice of the first sort does not last long and the color of the patient's skin

is not deep. The second form may be very intense and last for a long time. However, it is not always easy to differentiate between the two forms. Much patience and practice are needed for exact diagnosis. Lithogenous jaundice varies from time to time and seldom reaches the degree attained where the common duct is obstructed by a tumor. There is an inflammatory cholecystitis, which extends from the gall bladder into the common duct, also involving the pancreas, so that the jaundice which accompanies the presence of a calculi in the gall bladder is due to swelling of the pancreas.

In acute cholecystitis, there is also acute swelling of the lymph glands along the common and cystic ducts, which may compress the common duct and produce jaundice. In acute cholecystitis, however, the inflammation usually terminates at the neck of the gall bladder. There are also acute inflammations in the biliary passages not accompanied by the formation of calculi, which may require surgical treatment. Such inflammations may be limited to the gall bladder, cholecystitis, or to the larger ducts, cholangitis, or it may spread to the finer radicals of the biliary tracts—diffuse cholangitis. The inflammation may be serous, fibrinous, purulent, gangrenous or diphtheritic. Gangrene of the gall bladder is very rarely observed, owing to its abundant blood supply.

In cholecystitis, pain and tenderness is limited to the region of the gall bladder; often mistaken for gastric pain. It sometimes extends to the back and right shoulder blade.

In cholangitis the pain is more diffuse, spreading over the whole region occupied by the liver. In cholecystitis, jaundice is absent or slight. In cholangitis, it is usually well marked. Fever is present with either disease and, in cholangitis, may assume a septic or pyemic character. According to the light of our present knowledge, inflammation of the biliary passages is due to the introduction into them of bacteria, and it is hardly probable that a foreign body can produce inflammation without bacterial aid, although it might favor bacterial infection. In these cases, cholecystotomy and drainage will best rid the system of the infected bile and will succeed, in case the finer bile ducts are not involved.

The synopsis of symptoms is appended, which is of aid to the physician in distinguishing between the different forms of the disease. For this and various other quotations I am indebted to von Bergman's Surgery.

1. Calculi in the gall bladder. No symptoms in the latent stage. Diagnosis is difficult; is often mistaken for gastric ulcer, intestinal colic, movable kidney, etc. Medical treatment is sufficient.

2. Acute cholecystitis, with usually a large stone in the neck of the gall bladder. Symptoms, tumor of the gall bladder, tongue-shaped lobe; jaundice is rare; pain in stomach; distension of upper part of abdomen; marked tenderness on pressure. The general symptoms slight or severe, according to the character of the infection. Diagnosis is easy. Treatment operative.

3. Calculi in the gall bladder, in which there has been previous inflammation. Adhesions between the gall bladder and intestines or omentum. The symptoms and diagnosis are similar to Form 1, and operation is indi-

cated, if attacks are frequent. Acute cholecystitis in a gall bladder much thickened from previous inflammation; the cystic duct is obliterated or obstructed by calculi; no tumor palpable. Diagnosis is difficult. Cystectomy should be performed.

5. Conditions the same as in Form 3, except that calculi are wanting and adhesions are present. Symptoms, pain, frequently produced by change of position. Other symptoms same as Form 3. The treatment is cholecystotomy with drainage.

6. Hydrops of the gall bladder. Cystic duct obliterated or obstructed. The gall bladder walls are thin as paper, and the contents are a clear fluid. Frequently there are no symptoms, but the patient may have noticed a tumor or possibly may have gastric pains. The diagnosis is easy. It might be mistaken for floating kidney. Treatment, cholecystotomy or cystectomy.

7. Empyema of the gall bladder. Pus in the gall bladder with calculus in cystic duct and adhesions. Symptoms are, at first, the same as Form 2. Acute cholecystitis generally resembles hydrops; the pain is usually confined to region of the gall bladder, in the pit of the stomach. It may extend to the back and chest. The treatment is operative; cystotomy with drainage or cystectomy.

8. Carcinoma of the gall bladder, which contains calculus. The symptoms at first are those of indigestion without jaundice. Later, ascites and jaundice with cachexia are present. The diagnosis is difficult in the early stages. Treatment is unsuccessful.

9. Acute obstruction of the common duct by calculus. The symptoms are jaundice, well marked, with colic and vomiting; frequent chills and fever, which may subside if the calculus passes. The diagnosis is easy. In typical attacks of colic the treatment is operative at the present day.

10. Chronic obstruction of the common duct by calculus. The symptoms are jaundice, moderate or absent, changing from day to day; the stools are sometimes brown, sometimes gray; intermittent fever; usually pain; patient becomes cachectic and acquires a hemorrhagic diathesis. The treatment is operative, with drainage of the common duct if needed.

In cases similar to Form 1 we are seldom called upon to operate for this condition alone, and, if we find the gall bladder filled with calculi, it is when we have the abdomen opened for some other purpose. Of this variety, I have met with a considerable number of cases, but their only interest lies in the fact of having discovered them. The removal of the stones is very easy. In Form 2, acute cholecystitis with a large stone in cystic duct, I can report two cases.

Mrs. B., aged 46 years, German, married, mother of three children; has always enjoyed good health until some nine years ago, when she began having attacks of pain, with nausea and vomiting, confined to the region of stomach and gall bladder. Attacks would last one or two days, then pass off for one, two or three months. History was not definite as to fever in previous attacks, but presumably there was some. No jaundice or clay colored passages. I was called to see her May 12, 1906, and found her suffering with pain, nausea, slight fever, marked tenderness in the region of the gall bladder. Operated May 16, 1906. Found the gall bladder obscured by dense adhesions and obliterated down to the cystic duct, which contained a calculus as large as a small olive. The duct

was incised, the stone removed, and a drainage tube stitched to the incision in duct. Bile came through drainage tube on the fifth day. Recovery was perfect, although drainage persisted for several months.

CASE 2.—Mrs. A., American, age 32 years, married, one child. Good health until six months previous to being seen by the writer. History of four attacks about one month or six weeks apart. They would come on with severe pain and vomiting and were always accompanied with some fever. Gall bladder distended; very easily palpated, and tender. Operation. Many adhesions; gall bladder containing very little bile with considerable muco-purulent fluid. Large oval stone found in cystic duct. There was pressure necrosis of wall of duct so that in separating adhesions, stone was easily forced through wall of duct. Drainage tube was passed through gall bladder beyond the opening in the duct and protected by packing. The gall bladder was stitched to peritoneum. Bile flowed freely through tube on second day. Opening healed perfectly in three weeks, and recovery now seems perfect. Of this class of cases I could report a considerable number, but these two are fairly illustrative cases.

Of Form 3, calculi in the bladder with previous inflammatory attacks, adhesions, I report two cases.

Mrs. V., age 40 years, American, married, one child. Had several attacks in last three years of supposed gallstone colic; sometimes accompanied with jaundice and sometimes not. When seen in last attack was intensely jaundiced and running temperature of 102°-103° F. Had just been brought home from the Presbyterian Hospital where she had been undergoing treatment for three weeks. The operation disclosed many adhesions about the gall bladder and ducts. The end of the gall bladder was found and opened, and twelve or fifteen stones of considerable size removed, with some muco-purulent fluid. A large drainage tube was placed well down to the cystic duct and the bladder united to the peritoneum. In the following few days, several stones came out through the opening. The jaundice gradually disappeared, and except for a rather prolonged drainage, she made an excellent recovery.

Mr. B., German-American, aged 32 years, single. Seen first Feb. 10, 1904; found the patient in bed suffering considerable pain in gastric and gall bladder regions, with a moderate degree of temperature. He gave a history of having had several attacks during the past one and one-half years. There was no jaundice present. On Feb. 12, 1894, operation. Upon opening found extensive adhesions between the liver, omentum and intestines. It was with great difficulty that enough of the gall bladder could be exposed to open. This was finally done and six or seven irregular-shaped stones removed, with a considerable muco-purulent fluid. Owing to adhesions, it was found impossible to anchor the gall bladder to the peritoneum, and a drainage tube was passed into the gall bladder, protected round about with gauze packing. The convalescence was somewhat prolonged but a final recovery.

In Form 4, acute cholecystitis with thickened gall bladder from previous attacks of inflammation, cystic duct obliteration or obstructed by calculi, the following cases are typical:

CASE 5.—Miss F., age about 30 years, American, single, by occupation a teacher. Saw her first in consultation April 30, 1905, for a supposed attack of appendicitis. She was suffering a great deal of pain all over right side from region of the gall bladder down to and including the appendicular region. She had vomited, had then muscular rigidity and temperature of 102 F. She was prepared for an operation on May 1, 1905. As she had marked tenderness over the gall bladder, an incision was made high enough up to view the gall bladder, which was found very much thickened and surrounded with many adhesions; also evidence of stone in the cystic or common duct. The incision was enlarged downward, and the appendix, buried in adhesions and inflamed, was liberated and removed. The gall bladder was also found, and found to contain a black, tarry, thick fluid, in which there was some pus, and a stone wedged down in the

cystic duct, near its junction with the hepatic duct; the gall bladder was opened, the stone removed, and bladder then fastened to the peritoncum. Drainage was kept up in this case for about six weeks, when, everything seeming healthy, the wound was allowed to heal, and the patient at present is well and has gained in flesh about 20 pounds.

CASE 6.—Mrs. G., age 42 years, American. Was operated on at St. Margaret's Hospital, Hammond, Ind., April 7, 1903. She gave a typical history of cholecystitis, with probable obstruction of cystic duct. At operation, we found the gall bladder very much thickened, containing several medium-sized gallstones. They were removed and bladder stitched to peritoneum; the cystic duct opened in the following week and bile discharged freely from drainage opening. She improved greatly in health and bore a child during the following year. Unfortunately, in this case, I stitched the gall bladder too far out into the muscular structure and the fistula remained open and refused to heal, so on Oct. 1, 1905, I re-opened the wound, enucleated the gall bladder entire, and closed up the abdomen, which healed very kindly. She has remained well to the present time.

In Form 5, we find the same conditions as in Form 3, except that calculi are wanting.

CASE 7.—Mrs. H., American, widow, age about 60 years, mother of several children, all grown. Gave a history of having had a great many attacks during the past few years which were supposed to have been gall stones. Examination disclosed some tenderness in region of gall bladder; slight if any temperature; skin looked very dark but not jaundiced and eyes were clear, but had most intense itching of the whole body, with some digestive trouble. Operation, March 14, 1905. Gall bladder much thickened with some adhesions about the bladder. Contained small amount of thick, tarry bile, mixed with some mucus. Gall bladder was sponged away from the liver down to near the juncture with hepatic duct and removed. Patient made good recovery, digestion improved, and no return of the itching after the operation.

CASE 8.—Mrs. W., age 36 years, American, married, no children. Had suffered years with digestive troubles and occasional attacks of pain followed by marked tenderness in the region of gall bladder. Operation April 25, 1906. Gall bladder not enlarged, was brought out of the wound and opened. Contained some thick bile and muco-purulent matter; cystic duct occluded; no calculi; bladder stitched to peritoneum and drainage tube put in cystic duct, about fifth day. The cystic duct opened with free discharge of bile. Drainage was encouraged for three or four weeks at which time the patient seemed in first-class health. The wound was then allowed to heal and there has been no recurrence of symptoms since.

Form 6, hydrops of gall bladder, cystic duct obstructed by calculi, or previous inflammation.

CASE 9.—Mrs. Y., age about 40 years, American, married, three children. Had always enjoyed a moderate degree of health. I saw her first in consultation in 1898. Upon examination, I found a very movable tumor attached to the right side under the liver or in region of right kidney. The tumor was fully as large as a child's head and could be moved over to the left side with ease. It was diagnosed as either an enormously distended gall bladder or cystic kidney. As she had no pain, she wished to defer operation. A few weeks after, while crossing a rustic bridge, she slipped and fell, striking with considerable force at the site of tumor. During the following 24 hours, she suffered considerable pain and passed some blood with the urine. Was sent to the hospital and operated upon. The tumor proved to be hydrops of the gall bladder; contained 54 medium-sized stones, with one quart of clear fluid. Cystic duct occluded by one stone, which was removed. About two-thirds of the gall bladder was amputated and the balance stitched to peritoneum and drainage used. The careful examination of right kidney found it perfectly normal and not movable. The hemorrhage probably came from the bladder as there was no recurrence after the first 24 hours.

This case was undoubtedly one in which there should have been a complete enucleation done at time of operation, as the fistula remained open for a long time.

CASE 10.—Mr. M., age 60 years, and father of a large family. Had always enjoyed good health, except for the past two or three years. During this time he had at various times pains in region of gall bladder or appendix. In the year 1898, I was called to operate for supposed appendicitis. Examination showed a tumor five or six inches in length, extending from region of liver down right side to and below the crest of the ilium, and was fairly movable. At operation tumor proved to be a largely distended gall-bladder filled with clear fluid, and some sixty or more large smooth stones. Anchorage of the bladder to peritoneum; cystic duct opened third or fourth day, and recovery complete. The appendix showed no signs of inflammation and was not removed.

Form 7, empyema of gall bladder, pus and calculi.

Mrs. M., age 54 years, married, two children; American. Saw her first May 12, 1903. History of previous good health; was a strong, active woman and fond of hard work. For a few months previous to my visit she had noticed some pain and tenderness in right side near the liver, and, about May 10, was taken with a severe chill, followed by high fever and accompanied by a great deal of pain. Temperature 104 F., excessive tenderness over region of gall-bladder and evidence of septic infection. Was removed to hospital and operation done May 16, 1904. On opening the abdomen I found a very large gall bladder, which, on palpation, seemed to be perfectly solid. It was opened and found to contain one stone of immense size, which was removed with some difficulty. The stone was oblong, measured in length some four and three-quarters inches, and one and three-quarters inches in its greatest diameter. It was of the soft variety and was broken in three pieces in removal. The patient made a perfect recovery and was up and around the house the tenth day. As far as I have consulted statistics, this stone is considerably larger than any reported. There was in the gall-bladder a small quantity of very rank septic pus. Drainage was employed in this case for four weeks. I could report a number of cases of empyemia, but select this one from its very large sized stone.

Form 8, carcinoma of gall bladder.

CASE 12.—Mr. C., aged 54 years, married, with one son; American. Had enjoyed good health until about the year 1901. During this year had several attacks of what was termed gallstone colic. Being a commercial traveler he was treated during these attacks by several different physicians. The attacks came on sharply and required large doses of morphin to control the pain. He was jaundiced in nearly every attack, which generally wore off within a few days after subsidence of pain. On Aug. 16, 1902, he went to the hospital and requested me to operate for the removal of gallstones. At that time the patient was decidedly jaundiced; was just recovering from an attack. Operated on Aug. 18, 1902, and on opening the abdomen found the gall-bladder cystic and the common ducts showing every evidence of malignancy. Nothing farther was done, and the patient died within ten days from the exploratory operation. This is the only case of carcinoma of the gall-bladder that has come under my personal observation.

Form 9, acute obstruction of common duct by calculi.

CASE 13.—Mr. M., aged about 44 years, married, American. Saw him first Sept. 1, 1904. Had been operated on some three months previous and several stones removed from gall-bladder. Drainage remained open and evidently all the bile was coming through the drainage opening and none was going the natural way. I diagnosed a stone in the common duct and advised operation, which was consented to, and on Sept. 3, 1904, he was operated on. With a large free opening I easily found the stone, which was nearly the size of an olive, in the first portion of the common duct. Lembert stitches were placed in the duct and drawn to the side before opening. The duct was then incised and the stone removed. The wound in the duct was then closed tightly and a small drainage tube placed at the site of incision. The abdominal wound was closed except for a drainage

tube, and as there was no leakage, tube removed in twenty-four hours. Bowels moved naturally the day following operation and showed good coloring of bile. Convalescence was rapid and uncomplicated. Patient in six months had gained forty pounds.

CASE 14.—Mr. O., age 42, Hebrew. Was operated on first, Oct. 1, 1904, and gave the following history: Had, for the past two years, periodical attacks of pain, not very severe; it was in the region of stomach, liver, back and shoulder. These attacks were always accompanied by profuse and prolonged vomiting, lasting three or four days, and coming on every month or six weeks. Diagnosis, cholecystitis, with probable gallstones. At the operation, found the gall-bladder full of thickened and black bile, but could detect no stone, so stitched the gall-bladder to peritoneum and drained. There was some improvement as long as drainage remained open. At the end of two months the opening closed and the attack returned. On Dec. 29, 1904, I reopened the gall-bladder for farther drainage, with very little improvement this time, and he continued to have the attacks. On March 16, 1905, I persuaded him to let me reopen the wound and make a more careful search for a stone in the common duct. At the operation a very large incision was made, and after a most careful search a small stone was detected in the common duct, about one inch from the junction of cystic and hepatic ducts. The removal was not difficult and the incision in duct was closed up and healed readily.

This case is more than ordinarily interesting from two standpoints: First, that so small a stone would cause so much intermittent trouble and would not pass through into the intestines. It was a little over one-quarter of an inch in length and one-eighth of an inch in diameter. It was, however, irregular in contour and had two or three sharp corners. There was at no time during his illness anything that could be called jaundice. The second point of interest in the case was the fact that he remained absolutely faithful to me all through his troubles and accepted my advice whenever given. After final removal of the stone there has been no recurrence of the pain or vomiting, and he has gained largely in weight, can eat well, and is now in enjoyment of as good health as he ever had before the attacks.

In reporting these cases nothing new in the way of operative technic is claimed, but one fact is emphasized—that in all cases operated upon conservatism was employed and drainage used, and the fact that out of one hundred of a large variety operated on under various conditions a 3 per cent. mortality speaks well for conservatism and drainage in this class of surgery.

A FEW NOTES ON RENAL FUNCTIONAL TESTS, RENAL DIAGNOSTIC METHODS OF NEPHRECTOMY, NEPHROTOMY, NEPHROPEXY AND URETERAL SURGERY.

BRIEF REPORT OF SEVEN RENAL SURGICAL CASES.

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When Hippocrates, 2,300 years ago, made the first recorded nephrotomy for renal abscess, he laid the historical foundation stone of renal surgery, whose evolution became practically arrested till Simon in 1869 performed a successful nephrectomy for a renal fistula following ovariectomy, to be followed in 1881 by Hahn's nephropexy. Poor Nitze, who died last February, and who was never willed by Fate to make his observations well

ensconced behind the opportunities and protections of an executive position at a great public hospital, about the same time (by putting the illumination of the cystoscope at its end instead of using reflected light) laid not only the foundation for modern cystoscopy, but also put up and finished the building by formulating and mastering the laws governing the practical use of the operating cystoscope and ureter catheterization.

Thus the impulse and resources were given to the general surgeon to construct the dome of renal surgery by promulgating their experiences with an analysis of their results. While the battle of contradictory results and divergent opinions is still on, and we hope will continue for the sake of progress, yet sufficient of the smoke has cleared away to allow of some conclusions that seem to have within themselves sufficient truth enabling them to travel along under the guise of facts.

A study of the evolution of surgery always reveals that the first thought in the mind of the surgeon is to cut away the organ diseased. The period as well as the individual surgeon, when, by experience, observing the relatively poor results achieved by this radical and in the main crude and simple method of ectomy, soon learn to look about for the more advanced if more difficult methods of ectomizing no more the organ now, but only the part diseased. In kidney surgery the future will more definitely determine when a sick kidney and how much of it may be permitted to remain and under what modifications as to its anatomic structure and relations.

It soon became apparent to the busy surgeon, when he retrospected and compared the ante-operationem and the post-operationem or post-mortem diagnoses, that he must needs look for more refined methods in place of relying on the clinical history, a few rough-and-ready clinical findings as obtained by inspection, percussion and palpation, and inspection and palpation of the delivered kidney, than he had been wont to do. Nephrectomy especially made a responsible ante-operationem diagnosis as to the ability of the remaining kidney for work a desideratum of the first magnitude. Urine segregators, Luy's, Catheline's, Harris', etc., have proven so unreliable (Kümmel) and fatal to patient (Mayo) that their application has now but few endorsers.

Plain cystoscopy, ureteral meatoscopy without and with Voeliker and Joseph's indigo carmine injection (indigo carmine, unlike methylene blue, does not undergo those colorless modifications) will show whether the trigonum and bladder are normal or catarrhal or harbor stones, or are the seat of trabecula formation or tumor, ulcer, edema, besides allowing definite inferences as to the kidney to be drawn from the size, shape, general appearance of the ureteral orifices and the volume and force of the ureteral urinary current, the latter's presence or absence, etc.

The ureter catheter will furnish the uncontaminated simultaneous kidney urine; its frequent application under aseptic, or if required, antiseptic cautela in properly trained hands, has proven itself absolutely harmless, the old cry of infection is still uttered almost wholly by those that have never taken the trouble to acquaint themselves with its use or its singular advantages.

Blood and urine cryoscopy, according to Dr. L. E. Schmidt, are at the present treated stepmotherly by the very man (Kümmel) who made that test conspicuous and wrote a classical treatise and an analysis on his personal work in renal surgery. But Kapsammer and Rovzing and many other scientific observers soon proved conclusively that cryoscopy, while not without positive value, yet often deceived both in its negative and positive findings. So we must bid a parting farewell to a once respected and now thoroughly neglected claimant for the honors of functional renal diagnosis.

The phloridizin test is still retaining some influential advocates like Kapsammer, but there are not voices (Israel) lacking that go to show that the test is not always reliable nor free from danger to the patient. Achard's methylene blue test, one of the oldest, has had sufficient time to wear out whatever short-lived reputation had been cast upon it at one time.

The electric conduction test, based as it is on cryoscopy as a standard never passed the stage of being anything more than a pretty little toy. It can be operated with quantities as small as 1 to 2 c.c.

Some months ago the writer directed a letter of inquiry to a number of noted surgeons in this country. Here are their replies:

DR. GEORGE F. SHEARS:—In answer to your first question, upon what method do you rely to ascertain the functioning capacity of the kidney in the case of a prospective nephrectomy? I answer that the nephrectomies made by me have usually been operations of necessity, cases of malignant disease or tubercular disease, or of practical destruction of the kidney as shown by inspection. The question of the functioning power of the remaining kidney has been a matter of interest, but the decision would not necessarily have influenced the operation. It may be unsafe to remove one kidney when the freezing power of the blood is lower than 0.59 C., but it may be less safe to let the kidney remain. Practically having demonstrated the presence of the second kidney by inspection of the ureteral openings on the bladder surface, using either the endoscope in women or the cystoscope in men, I have gone ahead believing that as yet there is no reliable test to determine the actual capacity of the kidney.

In regard to your second question, What are your personal views as to the valuation of cryoscopy and the determination tests as applied to clinical uses, I would answer that from my present knowledge of the history of the case, the physical and clinical conditions present are, in my judgment, of more value than any tests as yet suggested. I am determined, however, to give the freezing and the phloridizin tests further trial. I am sorry I can not be more definite. I shall be glad to know the results of your studies.

DR. ARTHUR DEAN BEVAN:—Your letter of the 23rd would have been answered before, but I have been in New York. I do not feel that I am an authority on the subject of your inquiry. Dr. Tieken has devoted an entire year to this study, using the material of myself and Dr. Billings. I am sure he would be glad to send you a reprint if you re-

quested it. My own opinion is that the cryoscopic examination of the blood is the only thing in this line that has been demonstrated reliable and of value. Before doing a nephrectomy we always obtain a cryoscopic blood finding. We feel comfortable if it is not over 0.5%, and uncomfortable if it is above 60. We have, however, had no cases in which it was determining. Write to Tieken.

DR. J. CLARENCE WEBSTER:—I have been unable to reply to your letter of December 23, having been absent from the city. Before removing a kidney I make a careful cystoscopic examination and catheterize the ureters so as to gain exact information regarding the urine from each kidney. In obscure cases previous to the removal of the kidney, I have occasionally examined the other kidney through a lumbar exploratory incision. Sometimes in cases of a large renal swelling, I have chosen the anterior incision in order that the opposite kidney might be palpated internally. As regards cryoscopy and electric conduction tests, I can give no opinion that is worth anything. I have not yet had sufficient experience with them.

DR. ALBERT J. OCHSNER:—In answer to your letter, I would say that in making the nephrectomy I depend upon the Harris segregator to determine the condition of the opposite kidney. My personal views as regards cryoscopic examinations are based entirely upon reading the literature. I believe that they are valuable in a theoretical way, because they are likely to keep men without good surgical judgment from doing dangerous operations. The test is altogether too uncertain to be of positive value to men with good surgical judgment.

DR. CARL BECK:—On my return from Florida I find your letter of December 23, which I hasten to answer. I do not place as much reliance in cryoscopy and the other physical and chemical methods as I do in the ureteral catheterism. This is best done under anesthesia, the urine from both separated, the kidneys being carefully examined. It seems to me that the composition of the urine gives you a fair instinctive guide for the functioning capacity. I have so far always been satisfied with the result. If I can be of any further service I shall be glad.

DR. J. B. MURPHY:—In reply to your letter of the 25th instant, I would say that I have had very little experience in the work you mention. I endeavor to ascertain the functional activity of the kidney by the quantity of urine passed for several days, by ureteral catheterization and frequently by segregation. I never do a primary nephrectomy except where the kidney is a simple pus sac. Cancer of the kidney is the only condition in which I do the primary one side operation. I never do a nephrectomy for sarcoma where the diagnosis is made. In tuberculosis of the kidney a one-sided nephrectomy may be justified as a primary operation, or even a partial nephrectomy may be sufficient, as occasionally one pole of the kidney only is involved. I am very much in favor of husbanding renal secreting tissue, as can be seen from my paper read before the Southern Surgical Association. Under separate cover I send you a reprint.

DR. WELLER VAN HOOK:—At present we have no tested and approved methods of determining the ability of a kidney to do all the work of urine excretion. Hence nephrectomies are at times attended with a certain risk that can not be exactly measured. It is too soon to pass judgment on cryoscopy. My own experience is too limited to draw conclusions from it.

DR. WILLY MEYER:—I have your favor of the 23rd instant, and in reply would say that up to a few years ago I relied entirely upon a careful microscopic and chemical analysis of the specimens of urine separately obtained from each kidney by means of ureteral catheterization. As I have always had such analyses made at the same clinical laboratory, we have succeeded in perfecting the method to such a degree that even if no more than one dram could be obtained at the time, we were able to draw satisfactory conclusions as regards the health or disease of the kidneys. Of course, since cryoscopy has come into use, we have added this means in order to render a still more accurate diagnosis. The drawback of this method is that we need at least 10 c.c. of urine from each kidney—and a somewhat greater quantity makes the task still easier; then, too, the test is of no value unless the specimens have been obtained from both kidneys simultaneously. Yet I use the method wherever I can, and attribute great value to the same. Electric conduction tests I have not used so far.

DR. E. C. DUDLEY:—I have your inquiry of December 23. In reply to your first question, I have always relied upon the catheterization of the ureters through an electric cystoscope to determine the functioning capacity of each kidney. With reference to your second question, I have as yet no fixed opinion, and therefore can not express one.

DR. WILLIAM J. MAYO:—Dr. Millet does all this work in our office, and I have asked him to write you the particulars as to the methods we use in estimating kidney function.

DR. M. C. MILLET:—Dr. Mayo has handed your letter to me for answer. Cryoscopy we have used some, but never has it told us anything we did not know. The other tests we are not familiar with just at present. I am using the deep muscle injection of indigo carmine—have used it a few times. It has borne out our previously arrived at conclusions as demonstrated at operation. I do not know how we should like it. We have tried most of the many tests at times, but have more and more come to rely on the amount, general appearance (color, etc.), specific gravity and freedom from foreign elements, as blood or pus, as the most reliable data. The old-fashioned tests, chemical and microscopical, of the urine, seem to be practically reliable. We have lost no case with suppression, following nephrectomy, except one in which we were deceived by an intravesical separator, the better of the bad kidneys being removed. I am afraid this is not what you are looking for, but I can not say that any of the newer tests of competence have been of much real service to us here. Many report good results, but I often think that they might often get the same with a proportionate amount of attention to the ordinary clinical picture.

As can be seen by a perusal of their answers, most of them are in practical harmony with Rovzing, the Danish surgeon, who with ample material and using cryoscopy and phloridzin for more than a decade in his practice, came to the conclusion that the chemical, microscopical and bacteriological examination of the urine collected separately from each kidney will show: 1, Whether there is present a second kidney; 2, whether urine flows from this or not; 3, whether the urine is free from pathological contents. In isolated cases (for instance, of suspected bilateral renal atrophy or multiple cysts) we may be in doubt about the condition of the other kidney, whether this one is capable of doing all the work. Then it becomes necessary to supplement the examination of the separately collected renal excretion with an inspection and palpation of both kidneys through a lumbar bilateral incision.

Heusner quite recently constructed a novel contrivance aiming at the segregation of urine by pressure from without on the ureters in turn. Heusner claims to have found the test reliable, nor did he observe any inconveniences from the test except a transient tenderness and elimination of a little blood when a diseased ureter was compressed too hard and too long. It is useless to pass any *a priori* opinion on this new competitor of the ureter catheter; it will be the privilege of the general surgeon attached to a public hospital to determine the clinical value or worthlessness of the measure. His suggestion reminds us of Ebermann's advice to compress the ureter between forceps, one blade in the rectum and the other in the bladder.

Acute renal unilateral abscess has of late been receiving much needed attention. It is known to have succeeded gonorrhea or a trifling pyogenous infection of a finger, the face, nates, the nasal mucosa, etc., the primary furuncle within from one to four weeks initiating an acute rapidly progressive abscess in and around the kidney, killing the patient promptly, unless the employment of the cystoscope, by clearing the diagnosis, led to a timely nephrectomy or nephrotomy. With the exception of acute abscess, severe colic or anuria, the surgeon usually is given time to investigate his case. Ureteral urinalysis and cystoscopy will in the majority of cases point out whether the kidneys and which kidney is at fault. Clinically, experience has shown that it will not do that infallibly. Nor will ureteral urinalysis tell us anything about associated intra-abdominal pathology. An intelligent interpretation of a carefully taken history, supplemented by an abdominal incision, will be of much help on such occasions.

It is well at the outset to understand that if we are able to diagnose disease of the kidney and ureter from other conditions affecting any of the abdominal or pelvic viscera we are doing quite well, since statistics as to mortality easily prove the great superiority of postperitoneal to peritoneal incision.

The x-ray positively or negatively has proven a great boon to patient and surgeon alike in showing and locating stones. A stone shadow must remain constant in situation and contour in a number of exposures. The drawbacks attendant to its use are expense, cumbersome paraphernalia,

the need of services of an expert attendant, the need of taking at times a dozen or so of plates, its failure to distinguish between intraureteral or intrarenal stones and concretions from outside these organs. The Roentgen ray will not show to what extent the kidney is disorganized. And then, of course, neither is the x -ray infallible; many of its advocates allow of 15 per cent. failures, even in the hands of the expert. Carl Beck says: "With proper technique a renal calculus must invariably show, provided there is one there.

"A general exposure must precede that of a limited one, since it can not be known beforehand whether the suspected calculi were situated in one or both kidneys or ureters. In other words, the Roentgen plate must include an area bounded by the eleventh rib, iliac crest, vertebræ and anterior axillary line, requiring plates 10 x 12 or 11 x 14. The criterion of a good plate is that the vertebræ, the eleventh and twelfth ribs and the outer line of ileo-psoas muscles can be clearly defined. The bones are not to show textural details." Carl Beck has always found a renal calculus whenever a vesical concretion was present. Most vesical calculi are derived from the kidney. This explains recurrences of vesical calculus after operation. Many of our finely thought out diagnostic methods have been compared to those precious china wares of Dresden, used only in a few houses, trotted out on gala occasions; otherwise preserved in the china closet.

With the condition of the other kidney fairly ascertained, the surgeon when operating is more reasonably sure of not losing his patient. For if the other kidney is also disorganized, he will not operate at all unless it were to open a renal or perirenal abscess, or until by appropriate treatment the sound kidney has sufficiently recuperated to take on alone all renal functions (Rovzing). It is well to appreciate that the nature of the operation required in the individual case nearly always has to be decided while operating.

Renal calculus and renal tuberculosis have been found associated (Kümmel, Bevan). Guinea-pig inoculation is a fairly accurate but not infallible test for tuberculosis. We have learned that renal tuberculosis is usually, not to say always, hematogenous and unilateral in the beginning; secondary infection or a tubercular pyonephrosis is not a rare occurrence. When a renal neoplasm is small, or even when larger and undergoing degenerative processes it is impossible frequently to distinguish it from pyelonephritis or pyonephrosis. The ureter is frequently thickened in tuberculosis and pyonephrosis and becomes thus palpable. A normal ureter is never easily palpable, if palpable at all.

Classical symptoms of nephrolithiasis, as colic, hematuria, tenderness, passage of stones, may be absent. Passage of stones with the urine proves that a concretion has passed in the urine, but it does not prove renal stone. Hematuria and colic are present in calculus, hydronephrosis, movable kidney, incipient tuberculosis, ureteritis, renal tumor, nephralgia, pyelonephritis, chronic interstitial nephritis and contracted kidney. Pain or tenderness in its absence or presence may be a symptom in any of the renal or ure-

teral affections. Morris does not believe in transferred or reflected pain of one kidney to the other one. Calculous anuria occurs when the ureter or renal pelvis of one kidney is occluded, the other kidney being absent, atrophied or disintegrated. A diagnosis that will *post-operationem* prove approximately correct can only be made by a grouping of all the symptoms and by taking advantage of ureteral catheterization, careful percussion and palpation, palpation of the ureter according to Kelly's directions, a study of a number of Roentgen pictures, guinea-pig inoculation. For the surgeon who has not access to all these measures, there remains the most important of them all: the ureter urinalysis and cystoscopy and the easily performed guinea-pig test, the latter especially in suspected tuberculosis, since, as Kümmel says, it proves difficult in many cases, even with the kidney in one's hand, to know whether it is sick or not.

One of the first symptoms in renal tuberculosis is the turbid urine observed by the patient himself, frequent and painful at the end of micturition. The more progressive the cystic infection, the greater the frequency and loss of capacity. The bladder may become contracted to a degree that its capacity is reduced to from 50 to 60 c.c. Kümmel reports a case of incontinence with constant urinary overflow. The contracted bladder may make cystoscopy and ureter catheterization impossible. Kümmel and Rovzing agree that in the case of renal tuberculosis but two operations are indicated: nephrotomy in bilateral, nephrectomy in unilateral disease. Renal tuberculosis may and does get well spontaneously, but this event experience has shown occurs so rarely that it is not reasonable to look for its occurrence. The presence of the caseating and suppurating kidney leads to amyloid degeneration and secondary infection of the remaining kidney. Israel would wait for a spontaneous cure, Küster would resect the part of the kidney affected, provided that part of the kidney is the only tubercular seat, a position supported by Murphy. Kümmel, Schmieden, Wagner, Rovzing and Bevan nephrectomize a tubercular kidney, because, they hold, waiting does not cure and resection fails, the microscope has proven that you can not macroscopically, even with a split kidney in your hand, tell whether or not there are microscopical lesions in the part that is intended to be saved. The co-existing invasion of the lung or bladder is an indication and not a contraindication for nephrectomy, because, unless too far advanced, the cystitis will get well, especially with Rovzing's 5 per cent. carbolic acid after treatment. The tubercular testicle and epididymis are removed at the same time, or, better in severe cases, castration with vasectomy. Kümmel's death rate in nephrectomy is 6.4 per cent. Rovzing's death rate in nephrectomy is 3.3 per cent. This reduction of the death rate Rovzing attributes not to the value of any special functional tests, but to the careful ureteral urinalysis. He points out that there are cases when very sick kidneys produce clear, non-albuminous urine, as in contracted kidney, multilocular cysts, hydronephrosis, malignant tumors; besides these, there are cases when the urine contains pus and albumin, and yet one kidney is nevertheless able to take up the function of both kidneys. What

must we do in these cases in order to prevent fatalities, not to operate on inoperable cases, nor to deny an operation to patients that may yet be saved by means of a nephrectomy? Opinion as to how to solve this question is far from being settled. Views widely diverge.

"None of the known methods (cryoscopy, phloridzin or urea tests) for the determination of the renal function has proven itself reliable. Besides, we must remember that a temporary absence of functioning power is not identical with loss of ability to functionate properly. A perfectly healthy kidney may be prevented, from many causes, to perform its normal labor, and, since the cause of this phenomenon is frequently found in disease of the sister organ, it is quite irrational to formulate indications for nephrectomy on the basis of results derived from renal functional methods."

If Rovzing found the ureter urine of the kidney to remain without albumin, blood and micro-organisms, he, as a rule, considered operative intervention as justifiable, and when he found the urine albuminous then he was guided by whether he also found pus and micro-organisms. In the latter case he does not nephrectomize unless pus and micro-organisms give way to treatment. If he finds no pus and no micro-organisms he concludes that he is dealing with a toxic albuminuria caused by the sick kidney. Then he at once removes the kidney in order to remove the intoxication, even if cryoscopy and phloridzin speak against nephrectomy.

In about 50 per cent. of the cases renal tuberculosis is unilateral by the time the patient presents himself for treatment. Tuffier and Rovzing have a dozen or more authenticated cases living for years after a nephrectomy for tuberculosis, some of the cases having been observed as long as seven and more years later, all in perfect health. In 8 cases of tuberculosis reported by Rovzing there was albuminuria from both kidneys. In three were the renal functional tests favorable, while the microscope showed tubercle bacilli in both kidneys. He did not operate, and they died, all three, after about six weeks. In the other five cases there were found in the other kidney no bacilli, no pus, but albumin, criminal freezing point and no sugar after phloridzin. They were all operated and cured. When ureter catheterization proved impossible on account of extensive ulceration of the vesical mucosa or where there is suspicion of granular atrophy or multilocular cystoma be employed, so far without failure, exploration of both kidneys by bilateral lumbar incision.

Israel's experiences teach him that normal freezing point of blood is not only possible with bilateral severe renal disease, but also exists with solitary severe renal disease; on the other hand, abnormally low freezing points were observed in unilateral affections that permitted of successful nephrectomy. He also declares that the Casper-Richter phloridzin method frequently gives uncertain and even false results, although true for the majority of cases. In his 74 operated cases of renal tuberculosis, he was able to determine the seat of the tubercular process always without the functional methods. Israel's operative mortality of 28 per cent. before 1901 has since been reduced to 10 per cent.; this progress is independent of the functional diagnosis; even ureter catheterization can not

wholly explain the progress. Morris and Bazy, who do not use the ureter catheter at all, in tuberculosis, have made equal progress. Morris' former mortality of 27.7 per cent. is, since 1901, reduced to 15 per cent., and Bazy has, since 1890, a mortality of 6.6 per cent. Israel attributes the progress of lessened mortality to earlier operations before the second kidney is fatally involved.

We employ, then, nephrectomy for tuberculosis, injuries, intractable renal fistulæ, pyonephrosis, calculous pyonephrosis, neoplasm, hydronephrosis, when there is but little or no parenchyma left and irremediable ureteral or pelvic obstruction, inoperable ureteral stone or stricture or obstruction of any kind and uncontrollable hemorrhage.

A movable and healthy kidney is fixed, and, if right-sided, Ochsner advises an incision to the right of the colon so as to take care of any pathology of the bile passages or appendix at the same time. Of course, we can not tell by sight and touch how the kidney is inside. Kümmel, with the kidney in his hand, failed to palpate a stone soon revealed by the incision. Would it be better to bisect every kidney that we deem in need of suspension? Should we decapsulate, as a routine, before fixation? All kidneys operated on have to be fixed except in the presence of supuration. In the case of primary non-infected stone with free ureter, nephrotomy will be our choice. The difference in results between operations done by incising the kidney substance and those by incising the pelvis is quite marked. Tuffier arranges them thus: Nephrolithotomy, 43 cases; mortality operation, 6.1 per cent.; fistulæ, 3.33 per cent.; pyelotomy, 12 cases; mortality operation, 16 $\frac{2}{3}$ per cent.; fistulæ, 20 per cent. Opening in the pelvis gives insufficient view of surfaces and calices, and healing tendency is not so good. Pyelotomy leads to fistula formation, difficult to close by operation, and finally forcing a secondary nephrectomy (Kümmel).

In calculus associated with pyelonephritis with a large stone and most of the parenchyma gone, or with obstruction to the ureter, we nephrectomize. When the kidney is found to contain a multitude of calculi with an extensively degenerated parenchyma, experience has shown that it is better to be satisfied with a nephrotomy, because in no inconsiderable proportion of cases both kidneys contain calculi, so that disaster might result if the entire work of the kidneys were thrown on to one of them suddenly, and that one possibly also more or less diseased. Again, every bit of kidney tissue in such cases is of value, and by leaving this behind the performance of the functions of the kidneys is that much facilitated. On the other hand, if a urinary fistula persists and the urine escaping in the bladder from the other kidney is of fair quality, a secondary nephrectomy may be done.

A hydronephrosis, non-infected or infected, is nephrectomized if the sac is very large, most of the parenchyma gone, or if there is an inoperable interference with its drainage in the pelvis or ureter. A kidney may retain the macroscopic appearance of an aseptic hydronephrosis and yet microscopic examination reveal tubercular lesions. Usually we have to split the kidney to locate the impediment to drainage. If retrograde

catheterization of the ureter from the opening of the bisected kidney, a not infrequent occurrence, is impossible, we incise the ureter below and thus catheterize the ureter downward and upward. Virchow thinks the case is extraordinary in which hydronephrosis exists with the ureter patent. Tuffier recommends nephropexy for hydronephrosis and reports 100 per cent. cures. Yet in Fenger's opinion this simple fixing operation is effective only in the beginning of valve formation, and useless when stenosis is present, and it is often impossible to make a diagnosis without examination of the seat of obstruction from within. There must, then, be some uncertainty when nephropexy alone is made. If there is present recuperable parenchyma and ureteral drainage, or if the ureter drainage can be restored by plastic surgery, we nephrotomize with fixation. Change of position, interference with ureteral drainage from obstruction of its lumen by calculus, stricture, papilloma or from compression from without, as carcinoma of the bladder or uterus, ascending gonorrheal infection are the leading causes of hydronephrosis. In the case of bilateral hydronephrosis we resort to nephrotomy and nephropexy with temporary fistulization, attending afterward or at the time to the causes, as ureteral stricture, prostatic hypertrophy, bladder tumor, phymosis. A kidney that had a plastic done is better drained through its cortex to save the suture. We have recourse to the transperitoneal method for horse-shoe kidney, etc., in the latter case union of both peritonea and tamponade of retroperitoneal cavum from abdomen or drain and tamponade from behind. If the impediment is in the peripheral parts, bladder, uterus, pelvis, we remove tumors or inflammatory focus if possible; if that can not be done, implant ureter into the bladder. If all fails, nephrectomy. In the case of abdominal nephrectomy for tuberculosis, we punch a hole into the loin for fixation of the distal ureter. The intraperitoneal incision may be employed for diagnosis and for the purpose of ligating or compressing the renal vessels in connection with extraperitoneal nephrectomy. A nephrectomy in haste may be required if an alarming hemorrhage is encountered by reason of trauma to the larger renal vessels or other causes of uncontrollable hemorrhage. A nephrotomy is never done if a primary nephrectomy is the self-evident thing to do. Infection is thus prevented.

Whether to nephrectomize or nephrotomize in chronic abscess, pyelonephritis, pyonephrosis, infected renal calculus, will depend on the general condition of the patient, the condition of the other kidney and the anatomic conditions and relations of kidney and ureter as found on the operating table. For renal or suprarenal neoplasm there is but one step, that is removal, if not too late a case. It is advised by some authors to remove neoplastic tumors and hypernephromas in preference by an abdominal incision, splitting the parietal peritoneum external to the colon, for the reason that a clamping of the vessels prior to enucleation becomes thus possible and prevents the forcible expulsion of their contents into the general circulation. Also especially in large tumors there is less bruising of the parts handled. But the statistics present a much lower mortality of operations by the lumbar route.

An echinococcus cyst is nephrectomized or nephrotomized and drained if the other kidney is untrustworthy. Experience has also taught us to leave alone polycystic degeneration of the kidneys, except in the pressing need of an emergency incision. Multiple cystic degeneration, probably a form of retention cysts, is generally bilateral. Whenever the surgeon's knife has tried, especially bilaterally, to remedy the conditions, such efforts have generally been quickly followed by the patient's demise. Kümmel killed a woman by nephrectomizing the polycystic kidney and another one when splitting both kidneys.

Decapsulation or incision of the renal capsule for medical nephritis is condemned by Kümmel's argument, and most of us agree with him. A unilateral nephritis in the sense of an internal renal disease can not be recognized in the face of our bedside and postmortem experience. Blood, albumin and casts appear in many other renal infections and affections, and, if unilateral, allow of other diagnoses than nephritis. Parenchymatous or interstitial nephritis is always bilateral. Unilateral disease means tumor, stone, pyelonephritis, etc.

If during an intra-abdominal operation an ureter is inadvertently cut, experience has shown abundantly that the implantation of the proximal end after its longitudinal splitting, fastened into the vertex of the bladder without tension, is an extremely simple and highly successful measure; if properly sewed, drainage may be dispensed with.

Renal and ureteral plastic surgery will formulate its own rules as required by the case in hand. When a stone in the ureter can be pushed up into the split kidney, that part of the problem is solved. If during an extraperitoneal operation the ureter has to be incised, the ureter, if non-infected—and stone means infection in most cases—may be sewed up or left unsutured and drained. It matters not much, so long as intraureteral drainage is good and the ureter has received extraperitoneal attention. Immediate and water-tight suturing becomes the *conditio sine qua non* in the intra-abdominal operation. The upper five, perhaps nine, inches of the ureter are accessible through the oblique lumbo-abdominal incision. The rest of the ureter is held to be inaccessible by this route. It has been suggested to approach the lower end of the ureter extraperitoneally by an incision through the outer edge of the rectus and four inches upward from its insertion, using the vas for a guide. Intra-abdominal ureteral plastics in the presence of infection are apt to lead to peritonitis and death. Abdominal examination for diagnostic purposes followed by extraperitoneal operation has been of value, as evidenced by clinical experience. In women the lower pelvic portion can be reached by the vagina. The vesical portion of the ureter is reached by cystotomy. If Kelly can not find the ureter after opening the abdomen in the semi-lunar line, he looks for the left ureter at its point of transit from the abdomen into the pelvis, by lifting of the sigmoid flexure to the right and exposing the ureter just beneath the peritoneum, crossing the common iliac artery beside the ovarian vessels. On the right side the ureter will be exposed by lifting up and drawing the head of the colon to the right. If there is much fat in the abdomen he picks up a fold of peritoneum

overlying the common iliac artery near its bifurcation and incises it for one inch; by drawing apart the edges of the incision and getting rid of the fat and then looking closely the ureter will be found beneath. If necessary to trace it further, it may be held up and the peritoneum split up or down, laying it bare. The abdominal portions of the ureter can be laid bare for inspection by incising the peritoneum reflected over the ascending and descending colon on the outer side, where there are no vessels, then by displacing the colon toward the median line the ureter is exposed on the psoas muscle. The easiest way is to follow the ureter down from a peritoneal incision. A thickened ureter is more readily found. When the broad ligament is opened, if the ureter is not marked by a catheter it may be found by touch alone by separating the anterior from the posterior layer of peritoneum and carrying the thumb and forefinger deep down to the pelvic floor and gathering up the cellular tissue and letting it slip out between the fingers. After a few efforts the ureter will be distinctly recognized and then easily traced in its course into the anterior part of the pelvis.

Halle and Tuffier report each a case with multiple ureteral strictures. Fenger states it is probable that only strictures situated in the upper abdominal portion of the ureter are accessible for operable intervention. Inflammatory conditions of the ureter contraindicate plastic ureteral surgery, especially at its lower end. The lower end of the ureter in most cases after a nephrectomy takes care of itself. If suppuration persists, a secondary ureterectomy has to be attempted extraperitoneally. Obstruction of the ureter from pressure from without and if due to intraperitoneal pathology means a lumbar incision and a laparotomy. If the stricture is below the pelvic rim it will be quite a question what best to do. Try a nephrotomy first and ureteral dilatation and see what this will do, performing a secondary operation if necessary, always a doubtful proceeding, or nephrectomize if the other kidney is judged to be good, or do a nephrotomy and plastic ureteral surgery in the pelvic portion of the ureter practically inaccessible, or make an intraperitoneal ureteroureterostomy, or, if that is not feasible, a ureterocystoneostomy, always avoiding traction, covering anastomosis with peritoneum, making a vertical slit in the lower extremity of the proximal ureteral end to avoid stricture formation and leaving a retention catheter in the urethra. It is usually easier to perform a ureteral anastomosis over a catheter. For the lower ureter a bladder implantation; for the upper ureter anastomosis seems preferable. Ureterocystoneostomy has been frequently successfully performed without drainage. Implantation of the ureter in the intestines (except Maydle's operation) has been rejected by the experience of secondary renal infection. A temporary implantation on the surface of the body with a view to presently perform an ureteroplastic may be made necessary by the exigencies of the case in hand. The technical treatment of ureteral stricture means vertical incision and transverse suture, avoiding mucosa, with silk or catgut and fine needle, or section through upper end of stricture and lateral implantation of upper into lower ureter, or excision of stricture with end-to-end or end-in-end or end-to-side anasto-

mosis, or cystoureterotresis. When ureteral stricture and pelvic pouching co-exist, we perform a lateral anastomosis of the ureter with the pelvis—pyeloureterotresis. A longitudinal incision in the ureter below the stricture is sutured to a corresponding incision at the most dependent point of the pelvis. For valve formation within the pelvis various plastic operations have been successfully performed, as longitudinal incision from without, with transverse suture down to but not through the mucosa. Guyon maintains, more radical than Tuffier, that simple nephrotomy with drainage is superior to every "other operation for the relief of hydro-nephrosis, fixation of the kidney in its proper place, and removal of calculi if present will almost always suffice to relieve the obstruction and prevent its recurrence." Ureteral surgery, beyond ureteral incision, is not in place in the presence of suppuration.

Following are a few cases selected from the writer's practice:

Five years ago Dr. Thomas Bassett Keyes invited the writer to assist him in a nephropexy. A diagnosis of movable kidney had been made in the case of a widow from Butternut, Wisconsin, aged 48, a fleshy, otherwise healthy woman, that complained about increasing inconveniences and pain attributed to a painful movable body in the left abdomen. A Kelly cystoscopy attempted was not successful, because the woman declared the manipulation too painful. At the People's Hospital a lumbar incision was made, but we were not able, for some reason, to bring the kidney to the muscular incision. An abdominal incision soon enabled the writer to move the kidney into its proper niche and, holding it there with one hand in the abdomen, he cut down upon its fatty capsule from the lumbar incision and delivered it on the surface. The hydronephrotic kidney, measuring over 7 inches in length, on bisection along the whole of its convex surface, revealed good parenchyma with many cystic dilations here and there; no stones were found with palpation methodically carried on over the large surfaces. Retrograde ureteral catheterization was possible for about 9 inches down, but no further. An intra-abdominal palpation over the course of the ureter without previous splitting of its peritoneum revealed no stone or thickening of the ureter. It was concluded to give Nature a chance. While Dr. Keyes sewed the bisected kidney, after putting in a rubber tube as thick as a finger, and fastening the kidney itself by lead button sutures and sewing up the rest of the wound with a subrenal gauze drainage strip (the peritoneum had not been opened from the lumbar route) the writer sutured the peritoneum and the abdominal wall in layers. The woman was allowed to get up in three weeks. A renal fistula remained for about a year, when a small stone spontaneously passed through the wound, the fistula then promptly closed. The woman has been in good health since then.

A young man of 28, during the third month of a gonorrhea, developed what a lumbar incision proved to be an abscess in the kidney. A nephrotomy at his home and drainage secured a rapid recovery so far as the kidney was concerned. Two years later he got married. A year after the marriage the writer removed a right-sided tubo-ovarian abscess from his wife *per vaginam* at their home. Another year later at the German-

American Hospital, by abdominal section, he removed the left tube and ovary in a state of pyogenous degeneration. The husband is now but partially potent. Nitric acid shows about $\frac{1}{2}$ inch of albumin. The wife complains about her husband's inability to satisfy her sexual longings.

1. J. N., 51,¹ married, a farmer from Ransom, Illinois. Keely graduate 14 years ago. Never sick in bed. A year and a half ago had la grippe (cold and cough, dead bones, chilly, cold feet, headache). Two weeks later hematuria, has been having intermittent hematuria frequently since. Lost weight and strength and had to take to bed. He was removed under difficulties to the German-American Hospital from his rural home, where July 30, 1905, Dr. Langum and the writer removed his right kidney. A previous cystoscopy was impossible on account of active hematuria. The patient is well at this time and has gained weight and can work. (A slide prepared at the Columbus Laboratory showed the kidney to be in a state of parenchymatous degeneration.)

2. His son, W. N.,¹ a farmer, 25, married three years, always in good health till nine years ago, when colicky pains and vomiting spells set in intermittently, with dyspepsia as a constant feature in the interval. The beginning of his troubles can be traced to an injury received about one year prior to the onset of his troubles, when a colt squeezed him between its shoulder and the manger. Never had any urinary symptoms. Is losing strength. Patient looks emaciated. Urine normal. Chromocystoscopy reveals an extraordinary active right ureter. The left ureteral orifice indistinctly visible, nor could a stream be seen as issuing from it. A skiagraph showed no stone. The left kidney, presently removed by Dr. Langum and the writer, proved to be hydronephrotic with its contents resembling sterile water. Retrograde catheterization was arrested at a point near the bladder. The patient is well at this time and working every day on his farm.

J. T., farmer, Ransom, Illinois, aged 42, dyspeptic symptoms, with spells unable to work. Dates his troubles to the time, some two years previous, when he violently fell against one of the handles of his plow. No urinary symptoms; urine a few casts, otherwise normal. Incision at German-American Hospital below ninth rib to the outer rectus, the only part that palpation revealed as very tender. The tender point proved to be his left kidney, about four inches or more below its normal position. Fastened by strong adhesions to the left of the spine. Left lumbar dorsal incision and delivery of the kidney, which could easily be done by leaving the capsule behind, but proved apparently impossible with the capsule. A slide prepared at the Columbus Laboratory showed the kidney to be in a high state of parenchymatous degeneration. The patient is working hard now and enjoys good health.

1. Previously reported. Leusman: Notes on the Structure, Technique and Diagnostic Advantages of the Cystoscope, with Report of Two Cases of Nephrectomy, Chi. Med. Record, November, 1905.

A young widow, Chicago, 27. Dr. Mary Swanson and the writer removed a tubo-ovarian abscess and appendix over a year ago at German-American Hospital. Left ovary and tube looked normal then. Pain in the left side continuing, removed left tube and ovary, now in a state of chronic gonorrheal infection, about three or four months later. For a short while pain ceased to return within two weeks after last operation. A cystoscopy, performed two months after the last operation, revealed an ulcerated left ureteral orifice; the right one normal. Catheterization of the right ureter free up to pelvis. Right ureteral urine normal. On left side catheterization impossible on account of strictured ureter. Bladder urine contained albumin and pus cells and bacteria. No tubercle bacilli were found on culture. Guinea-pig test was not made. Nephrectomy proposed, as yet not accepted.

Young man of 25, had gonorrhea two years ago. Believed himself to be suffering with prostatitis. The urine shows tubercle bacilli. Ureter catheterization was not possible on account of bladder tenderness and general anesthetic declined. Patient died a half a year later with renal tuberculosis.

SOME GENERAL NOTIONS.

1. Functional tests were helpful in causing us to more accurately study the kidneys before operation. Their findings are not without value, but experience shows we can do as well without as with their assistance. When employing them in order to save lives, we must at times operate despite their findings.

2. The cystoscope and ureter catheter have come to stay; familiarity with its use is becoming more general every day. They are of indispensable diagnostic advantage.

3. Time will show the practical value or worthlessness of the other diagnostic methods.

4. A chemical, microscopical and bacteriological examination of the ureter catheter urine frequently means much to the patient.

5. The x-ray is desirable if obtainable.

6. An early incision to and into the kidney in the presence of symptoms pointing to renal surgery is the safest thing for the patient.

7. Do not explore during suppurating conditions.

8. Most kidney operations demand probing ureteral patency.

9. Experience demands early nephrolithotomy as soon as we know of the existence of stone, early nephrectomy for renal tuberculosis, early nephrotomy or nephrectomy for acute renal abscess.

10. Nephrotomy is safer than nephrectomy in calculus, especially multiple, in nephritis and cystic kidney.

11. In doing renal surgery we must not neglect to take care of associated abdominal pathology, stomach and duodenal and colic ulcer, cholelithiasis and cholecystitis, appendicitis, intestinal stricture or tumor, intestinal tuberculosis, uterine and pelvic adnexa disease, and *vice versa*.

12. The kidney and ureter are to some degree escaping attention during laparotomies. The gastrointestinal tract, duodenum, pancreas, appendix, liver, spleen, gall bladder, uterus, tubes, ovaries being intraperitoneal,

reveal infinitely more to the palpating hand than the out-of-the-way post-peritoneal kidney, palpable only in part and indirectly through its fatty capsule. It is more difficult with the kidney in one's hand to guess at its pathology than any of the other organs named.

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DIABETES, NOT A DISEASE, *PER SE*, BUT A CONDITION, ACCOMPANIMENT OR SEQUELA OF SEVERAL OR NUMEROUS DISEASES.*

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The word diabetes, derived from two Greek words, meaning to pass through, has been applied to the condition under consideration since the time of Galen and Aretaeus, about the middle or latter part of the first century, and included both varieties. It was distinguished by great and persistent increase in the quantity of urine passed, great thirst, ravenous appetite, dryness of the skin and wasting of the body. Dr. Thomas Willis, in 1675, is said to have suspected the presence of sugar in urine in some cases, but not in others. It was impossible to distinguish at that

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time between them, and succeeding authors left this ground of distinction almost unrecognized until about the middle of the eighteenth century, when the name diabetes mellitus was given to that form of the trouble where the urine was sweet; otherwise the etiology, exciting causes, chief symptoms, course, duration, pathology and prognosis are much the same. In fact, it is impossible to give the story of diabetes insipidus without giving the most of the corresponding story of so-called diabetes mellitus. We are taught that diabetes insipidus frequently runs into diabetes mellitus. We find glycosuria and diabetes used as synonyms ever since the birth of the term "glycosuria." We also find the text-books at the present time using them as synonyms. Efforts have been made to eliminate, substitute and modify the expression so as to give diabetes and glycosuria different meanings. In fact, when we use the term unqualifiedly we only convey, to a close thinker in the profession, the fact that we have something that we do not know anything about, and, for the lack of a better name and because we have rather persistent glycosuria, we call it diabetes, but what organ or group of organs show a pathological condition we are about as much in the dark as our forefathers were in the middle of the first century when the name was first applied to it.

Is it a disease or is it a condition, symptom or sequelæ of one or several diseases? Years ago I had occasion to thoroughly read up on diabetes and searched all the literature that I was able to find on the subject. Before I got well into the subject I learned that I was not only extremely ignorant of the so-called disease, but that every other practitioner was in the same fix and before I completed my research I concluded that there was no such a disease at all, but that what we were calling a disease was a condition or symptom of one or more of several diseases, some of which we have learned something about and some of which we have not yet discovered. Thus, at the present time, we have these expressions creeping into general use; traumatic, hepatic, pancreatic, intestinal, organic, toxic, alimentary, neurotic and renal diabetes. Our early writers regarded dropsy as a disease, later they learned something of its pathology and ceased to call it a disease, finally making a definition that seems to cover dropsy in a comprehensible manner. But what about that condition which we have been and are calling diabetes or glycosuria? Viewing or accepting glycosuria as a disease, we are wandering around in the darkness of sugar light, apparently following a professional ignis fatuus, landing each follower in a new place, and so it has been going on since the days of Galen and Areteus. While sometimes mentioned by writers in the middle ages, it was not until 1674 that sugar was first noticed by Willis. In 1675 Morton discovered sugar in the urine of diabetics. Previous to this time, the presence of sugar was unnoticed, and only the copiousness of the urine and the wasting of the body, ravenous appetite and great thirst were taken into account. It is well to notice here that the name diabetes was given over 1,500 years before we considered sugar as a factor in the disorder at all, much less in its name. From Galen's time to 1675 the disorder was considered a disease of the kidneys, although Areteus, who lived about the same time as Galen, had said that it was due to a disease of

the stomach, which was agreed to by Rollo in 1787, as more nearly correct. In 1823 Tiedman and Gmellon found sugar to be a normal product of the digestion of starch. In 1835 sugar was first discovered in the blood by Ambrosia. In 1837 McGregor, of Glasgow, proved sugar to be a normal constituent of the blood for the first time. He obtained the digested contents of the stomachs of two men who had dined three hours before—one a healthy man and one a diabetic. In each case the food had been ordinary mixed meals. Applying the yeast test, he found that both contents fermented strongly, but more especially that from the diabetic. He then varied the experiment. Thinking that the sugar might have been introduced in the vegetable food, he adopted further precaution to exclude that source of deception, and, after cleaning out their stomachs, he administered to a healthy man and a diabetic man a diet of roast beef and nothing else for three days, and then, three or four hours after a meal, the contents of their stomachs were procured and treated as in the former case. That taken from the healthy man showed no traces of sugar, while that taken from the diabetic patient responded briskly to the sugar test. The fault, he concluded, lies in the digestive organs. Instead of healthy and nutritive chyle, saccharine matter is prepared by the stomach and enters the circulation. "That which should be converted into muscle and fat and bone and nerve and membrane is hurried out of the system as sugar with the urine." He says: "Thus far we see our way with tolerable clearness, but why the stomach should cease to perform its accustomed chemistry upon the food and even upon sugar itself as an article of food, we have not yet learned. The single important step is still wanting to the complete solution of the pathologic problem." McGregor made many other interesting experiments, and to finish his labors said: "We know very little about diabetes." So we find one after another of our forefathers' researches having a similar result. One says it is the kidneys and finds later on that the kidneys show pathologic lesions only on account of the extra work thrown on them in separating the great amount of solids from the blood. Others found the liver to blame, because they found the blood containing more sugar when it came from the liver than it contained when it entered it. This phenomenon was later explained as physiological and not pathological. Others have tied the thoracic duct and so produced sugar in the urine and arrived at the conclusion that the so-called disease was caused by pressure on the thoracic duct some place along its course. Still others have found that irritation of the floor of the fourth ventricle will cause sugar in the urine. My observations some years ago taught me that sugar is found in the urine following typhoid fever, relapsing fever, cholera, cerebrospinal fever, malarial fevers, hysteria, dyspepsia, diseases of the brain or nervous system, in syphilitics, in influenza or "grippe," as an accompaniment of pneumogastric, spinal and meningeal irritation and in cancer of the pancreas. Since then we are finding it in other conditions. Sweet and others, in their experiments, have been able to produce transitory diabetes by the use of phloridzin injections, as well as other drugs. However, the complete removal of the pancreas was found necessary to produce or develop diabetes of a permanent character. It

seems to have taken the medical profession nearly 1,600 years to discover that sugar was at all necessary in the make-up of diabetes, and it took them 200 years more to find any assignable cause for the appearance of sugar in the urine. Since that time the causes have been variously ascertained and seemingly learned and then unlearned. Sugar was found to be a normal constituent of the blood, then the liver, and now of late we are taught that sugar is a normal constituent of urine, accepted a few years as announced by Brucke, Meisner and others, and now we have Maley, Seegan, Kuls and others claiming, after exhaustive research, that sugar is not a normal constituent of urine, and that in normal urine sugar is not found. Most writers at the present time seem to trace the pathology to the pancreas. Some are endeavoring to prove that the islands of Langerhans have the function of preventing the waste of sugar, and some others have found that the suprarenals have an influence over it. If we take up therapeutic diagnosis we find ourselves, as far back as Rollo in 1787, to say the least. Diet is nearly the whole thing, and with probably 80 per cent. of the profession it is practically that announced by Rollo, a strictly meat diet, or as near that as possible—gluten bread, meat and eggs. In the past few years some have advised a purely vegetable diet, whether for any tangible reason or to depart from the ruts of an established custom you can draw your own conclusions. At all events their success is as good, to say the least, as the old custom. The conclusion usually formed from so-called therapeutic diagnosis is that if the patient gets well you did not have a case of diabetes, and if he dies you did. Thus we have a case reported of persistent diabetes, with all the characteristic phenomena. Later a tape worm was removed from the patient, with an uneventful recovery from all diabetic phenomena. Therefore, it was tape worm that the patient had and not diabetes. The matter of sugar appearing in the urine in abnormal quantities resolves itself into a question of overproduction or under consumption, or both. With the surplus, from whatever cause, eliminated by the kidneys as a constituent of the urine, the excretion of sugar continues as long as there is any excess of sugar to be thrown off, whether it is from lack of consumption or from overproduction, and to me it looks as if we should pay as little attention to the sugar as the circumstances will permit and leave us in possession of the real situation. We find that most cases of so-called diabetes die of some other disease. We also find that tuberculosis develops in the majority of the cases and they die with it, or those not called tuberculosis are favored with a death certificate of pneumonia, which often means the same thing. I find that it is claimed that the viscera along the intestinal tract are very often covered with tubercles, and I have no doubt that if close enough investigation was made every case would show tuberculous deposits some place, and that tuberculosis is the real cause of dissolution in nearly, if not all, cases.

Diabetic coma, which is given as next to lung troubles as a cause of death, is usually caused from albuminuria, which is but the effect of overworked kidneys, causing nephritis. No definition has ever been made that a new writer does not change a little to fit what he finds. While

In my opinion, diabetes is not a disease *per se*, but a condition, symptom, or sequela of one or more diseases or diseased organs, causing a dyscrasia, characterized by disordered nutrition, inordinate hunger and thirst, excessive discharge of urine, usually persistent glycosuria, with wasting of muscular tissue, progressive exhaustion and a fatal termination, by some secondary trouble, usually tuberculosis or albuminuria, caused by extra work thrown on the kidneys.

THE CONSIDERATION OF SERIOUS SURGICAL EMERGENCIES.*

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It is not an uncommon occurrence for the surgeon to be brought suddenly face to face with cases which, through traumatism or other surgical diseases, are apparently hopeless, and the question arises, after careful examination and deliberate and judicious consideration, as to what is the best plan to pursue at the time of such emergencies; whether he shall stand quietly by and, like a good nurse, endeavor by tender acts of mercy to soothe the pangs of death, consoling himself with the thought that it is the will of the Great Author of Human Existence; or whether he shall do something efficacious, heroic as it may seem, to make an effort to stay the progress of what would otherwise result in certain dissolution. Such cases as these are not the ones that are apt to bring great credit to the surgeon, it is true, as, in the majority of instances, his efforts to save life are not successful, and, by operating, he is very likely to expose himself to severe disapprobation; but, even so, should the mere fear of censure and criticism cause him to falter, and thus fail to do his duty, when there is even a bare possibility of saving the life of an individual? No, most emphatically, no! Common sense would cause any fair-minded person, be he physician or layman, to answer thus. Nevertheless, if it were possible for us to unroll the scroll that contains the list of the numberless dead whose lives might have been saved had timely and appropriate surgical assistance been given them, had the physician or surgeon in charge not faltered for fear of failure and consequent condemnation, I dare say we would be amazed; ay horrified! But it is no less true that any attempt on the part of the surgeon to do something heroic during such predicaments, in the face of ignorance and unwarranted prejudice of laymen, and, sometimes, I am sorry to say, even on the part of professional consultants, requires considerable independence and courage. No one realizes, as he does, that the great burden of the responsibility rests upon his shoulders at such times, and it appears, for this reason, that it would be almost an excusable offense should he intentionally neglect to carry out such radical and urgent

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measures as the particular case may demand, in spite of his honest desire to save life. Experience has taught us, that certain desperate cases do recover where some surgical procedure has been practiced as a last feeble effort to save the patient from what appears, otherwise, to be certain death. Who knows, then, just which of these grave cases still retains that smoldering vital spark which can possibly be rekindled into renewed health, by prompt and skillful action at the hands of the surgeon in attendance? How are we to know with any degree of certainty, whether or not the very last vestige of vital energy is entirely exhausted and the disease is one that is irrecoverable, and any effort on our part to arouse the patient to renewed health will be but vain and futile? With our present incomplete and uncertain methods of diagnosis, and our inability to anticipate the exact course the disease will pursue in a given case, we cannot know, and it is irrational to believe that we will ever arrive at such a perfect state of development in this respect, as to enable us to gauge with any degree of certainty the real tensile properties of human life. On account of this fact, therefore, it is reasonable to believe, and experience has proven, that as long as there is a fair amount of vital energy still present during the course of a serious surgical condition, there is yet time to act. It must not be that venturesome kind of action that is prompted by recklessness and ignorance on the part of the operator, but the careful, considerate and deliberate action that can only come about from a fair knowledge of the pathological condition existing and the proper surgical technique to be practiced for its relief, after thorough and judicial investigation of the history and symptoms. It behooves the surgeon not to be too impulsive, or unduly timorous, but, at the same time, he must not err on the other side, by being too conservative, and procrastinate until the opportune time for surgical succor is passed. He must realize that the sin of omission, under such circumstances, is even as great, if not greater, than that of misguided commission. He is even culpable of criminal neglect, if he deprives the patient of the only chance, be it ever so small, for recovery.

The surgical conditions which we most commonly meet (and this comprises nearly all of them) where prompt and intelligent treatment to endeavor to save life is necessary, are, in all cases of dangerous accident, and when I say accident, I mean it in its broadest sense, signifying not only those serious injuries caused by direct traumatism, such as occur on railroads, or from other heavy machinery, or that result from gunshot wounds that happen in battle or civil life, but also those caused from disease strictly, such, for instance, as arise suddenly while the patient is up and about; as, for example, suffocating from mechanical obstructions in the air passages, epistaxis, and other spontaneous hemorrhages, strangulated hernia, etc.; or, on the other hand, those accidents which arise unexpectedly in the course of, or follow in the wake of, a pathological process of some days' or weeks' standing, as, for instance, intestinal or gastric perforation, caused by typhoid fever, appendicitis or gastric ulcer; abscess of the liver and other organs; laryngeal stenosis, following diphtheria and other diseases of the throat, and like conditions.

The great proportion of the cases that come under this heading, which require speedy surgical relief in order to save life, are those desperate conditions caused by direct traumatism. Here we are confronted by a condition where the exact gravity of the case, and the urgent necessity for surgical interference, is self-evident. Even the bystanders see at a glance that there is a dangerous condition present that requires immediate treatment from whatever surgeon happens to be most accessible, and, hence, no special argument is necessary to convince every one that surgery furnishes the only means of relief; for this reason that there is not the same responsibility heaped upon the shoulders of the surgeon, neither is there the same demand for good judgment upon his part in deciding what is the best course to pursue for quick relief, as we meet in accidents caused purely from disease, of which I will speak later. In such cases, therefore, I repeat, it is not difficult to procure a consensus of opinion regarding the advisability of a certain surgical operation, as, on account of the self-evident need for the same, surgeon and layman alike agree, without further dissension.

Having plainly before his eyes, therefore, an undoubted indication for surgical interference, the attending surgeon proceeds to do whatever is indicated, without further delay, knowing that he is not very likely to be censured. For even if he fails in his object, the injury, rather than the operation, will, for obvious reasons, be held responsible for the unfortunate termination of life. In such cases the surgeon recognizes a plain and positive surgical entity, having a known cause; a contused, lacerated or penetrating wound, and with one of these conditions, its usual accompaniments—shock, hemorrhage and probably infection. The treatment demanded in such cases, therefore, is even as self-evident as the condition itself. If shock is the most serious complication present, as it is likely to be, especially if the injury is due to some mangling force, this, first of all, demands attention, depending on its degree of severity, before proceeding with further operations. Unfortunately, however, there has been a tendency on the part of surgeons, though less frequently of recent years, I admit, to rush at once into whatever surgical procedure appears to be indicated, without first giving attention to this most important and serious symptom. Haste in doing protracted operations, or complicated dressings after such traumatisms, except perhaps, in certain vital wounds, as, for instance, perforating wounds of the abdominal viscera with great hemorrhage, where immediate incision and exploration is obligatory, is a great mistake and, frequently, of itself, fatal, as, by so doing, a second traumatism and additional shock and hemorrhage are added to the already serious condition. The rational thing to do, therefore, in time of such a dilemma, is to confine ourselves to checking the hemorrhage, if present and accessible, by as simple and rapid means as possible, and then to place the patient in as comfortable a position as practicable without undue disturbance, and diligently treat the initial shock. Absolute physical and mental quietude, with appropriate treatment to support the heart and assist it to recover its activity and rhythm, therefore, are the first and most important therapeutic indications to be carried out, with-

out fearing that a few hours' delay will greatly interfere with the patient's chances of recovery on account of possible infection, as this will have occurred at the time of the injury, if at all, and hurried treatment will not head it off. If we keep the injured one absolutely motionless, as far as practicable, and do not meddle with the wound, only in so far as it is necessary to check the hemorrhage, until the critical moment is passed, the probabilities of sepsis will not be very much increased; and even if it is, this is a secondary consideration at such a time. After the initial shock has subsided, we can proceed with the necessary operation without increasing the damage, as the nerve centers are now better able to stand the insult of additional surgical traumatism, and the depressing effect of the anesthetic.

Again, there is a dangerous custom, too frequently practiced, of subjecting the severely injured to the ill effects of a long journey to a hospital or other place where surgical aid can be procured, instead of keeping the patient quiet and requesting the surgeon to come to the place where the accident happened. This unnecessary movement, after the injury happens, with the pain, fatigue and excitement that almost invariably accompany it, is, of itself, frequently the immediate cause of death, and hence should never be done. To be sure, the advantages to be had at the hospital would add greatly to the convenience of operating, and, likewise, to the prospect for recovery, were it possible to accomplish them without the great risk incurred and the time lost by the long and tedious journey, but such advantages are not proportionate to the harm incurred by the necessary exposure in moving the patient to such a place.

Besides absolute immobility, there is another important matter that should be observed in the treatment of such cases, and that is, the strict avoidance of nervous excitement, as, besides the already severe enough shock from bodily hurt, there is apt to be added to it shock from a purely mental source. In other words, we must use means to prevent the patient from becoming terrorized. We have many examples in our medical literature, where fright alone was the immediate and only cause of death, and it seems, therefore, reasonable to believe that it might exercise a strong influence, by its reflex action upon the heart, and possibly the blood vessels and thus increase the already existing nerve depression produced primarily by the traumatism. Either form of shock, however, is sufficient to produce disastrous results, and, for this reason, it behooves us to avoid the latter by shielding the patient from the usual noise and undisguised anxiety of friends and on-lookers, until nature can re-establish her crippled nerve forces and react again.

There are, however, exceptional cases due to traumatism, where this conservative plan, previously referred to, is in no wise practical, and where immediate and even hasty operation must be done before the vital forces are exhausted from other causes. I refer to those cases where internal injuries with concealed hemorrhage urgently demand immediate action to avoid the peril of death, as, for instance, in gunshot wounds and other injuries of the visceral organs. In such cases, we are obliged to ignore, for the time being, the immediate dangers arising from

shock, instituting, of course, appropriate stimulating and supportive measures to carry the patient through the time of it, and to proceed with the operation for finding the source of and checking the hemorrhage as quickly as possible. In such injuries, hemorrhage is likely to be very severe and the real cause of the existing shock and the danger to life from this cause, is greater and surer than from either surgical shock or infection. True, the danger from surgical shock resulting from immediate operation, in such instances, is also great, but its effects are not so absolutely certain to destroy life primarily, and we must choose the lesser of the evils, and first treat the hemorrhage. Again, infection in such cases is least of all to be feared, as the majority of such injuries are the result of gunshot wounds, and, as Bergman and others have demonstrated, infection from this source is least likely to occur on account of the sterilizing effect of the great temperature the ball attains in its rapid transit through the atmosphere. Stab wounds and those produced by unclean pointed instruments, are most likely to produce violent infection, but this likewise, is a secondary consideration, if there is existing danger from hemorrhage. Hemorrhage, therefore, in all such conditions, plays the most important rôle and is the chief factor which is destroying life. To combat it, therefore, must be our main object. No matter how hopeless the case may appear from this cause, it is never too late to attempt to abort its certain consequences by timely and rapid incision. It may appear, at first sight, that the vital limit is already reached, from the great loss of blood, and we might think that any effort to prolong life by checking it would be worthless; but, as we have no means of determining just what the extent of this extreme limit is in a given case, we are guilty of a great wrong if we fail to give the patient the benefit of the doubt.

Having considered the serious emergencies that arise from direct traumatism, we will now discuss the second, and probably the most important part of this subject, namely: the dangerous accidents that come about from disease pure and simple. Such accidents may take place suddenly and unexpectedly while the individual is up and about and in apparently good health, or, on the other hand, in the course of and as a complication of some severe illness. Here we have quite a different picture and a somewhat reverse state of affairs to contend with, than those we see in accidents caused strictly from mechanical violence. Unlike the condition first considered, the surgeon is confronted by surgical conditions that, in the majority of cases, are more obscure and many times profoundly perplexing. Here the exact pathological condition is not spread out to his vision and plain to see, as in the case of accidents caused from direct traumatism, and, hence, there is not the same convincing evidence present to satisfy his own mind and the minds of others, at first sight, that immediate surgical interference is unquestionably demanded to save life. In these conditions, the danger from delay in instituting appropriate treatment, in many cases, is extremely hazardous, and it again falls to the lot of the surgeon to urge upon the patient and his friends what, in his judgment, after careful examinations, is the best and only means of relief in the way of surgical operation. At the time of such accidents,

we are greatly handicapped by a weakened and debilitated system deprived of its power of resistance, as a result of pre-existing disease, and here we have a condition to treat that is complicated by one or all of the three great surgical bugbears that lessen the patient's chances of recovery; shock, hemorrhage and infection, depending on the particular type of the pathological lesion.

We will consider, first, those serious surgical conditions that arise suddenly and unexpectedly, while the patient is up and about and in relatively good health, such conditions as arise from severe and profuse hemorrhage, other than traumatic, as severe epistaxis, bleeding from an ulcerated tonsil which has penetrated into the internal carotid artery and the like; or, again, such as come about from acute obstruction of the bowels, as, for instance, irreducible strangulated hernia, volvulus, intussusception and kindred affections. In all such conditions we know from experience that a fatal termination will take place, in default of prompt surgical treatment.

Suppose that our patient is suffering from one of the already-mentioned forms of severe hemorrhage. In such cases the danger manifests itself from the outset, by a train of symptoms that are most alarming. Unfortunately, as a rule, in such emergencies, medical assistance is not readily accessible, and, consequently, considerable blood is lost before the necessary relief arrives; or, the patient is allowed to become almost exsanguinated, while valuable time is consumed in endeavoring to staunch the flow by means of certain well-known and useless home methods, before medical assistance is summoned. Hence, when the surgeon arrives on the scene, he finds himself severely handicapped at the outset in the way of administering the necessary surgical aid, on account of the already weakened and shocked condition of the patient from the great loss of blood. Most frequently the picture that first greets his eye, is that of the patient lying prostrate and unconscious, with the extreme pallor of death, cold skin and extremities and skin bathed in cold perspiration. Added to this, there will probably be an almost imperceptible and rapid pulse, with labored and mechanical breathing and subnormal temperature. The prospect is anything but encouraging in such a case, as there is no time left for instituting measures for sustaining the heart and improving the circulation, and it is a question whether the patient in such an enfeebled condition can withstand the disturbing effects of an operation for the purpose of checking the hemorrhage. Again, the question presents itself, whether we shall permit the patient to die, or, hopeless as the prospect may seem, shall we act—shall we do something heroic to endeavor to save his life? I would say, yes! Check the hemorrhage if possible, as quickly and adroitly as we can, while providing means for sustaining the heart with intravenous injections of normal salt and hypodermics of heart stimulants, etc. Only a few months ago, I found myself in just such a trying position, in the case of a young man, a hemophilic, whom I was called in haste to see, and whom I found suffering with most severe and profuse bleeding at the nose. He had already lost such a great amount of blood, when I arrived, that he seemed to be past

human aid and any effort to save him seemed apparently useless. I lost no time in plugging the nares, first of all, to check the hemorrhage and then busied myself by instituting appropriate stimulating and supportive measures, by means of heart stimulants and by filling the circulation with normal salt solution, by means of hypodermoclysis, after which I warmed the surface of his body with hot water bottles, etc., when, to my surprise, little by little, the pulse improved in quality, the breathing grew more regular and deeper, the skin and extremities regained their normal warmth, and he slowly and gradually rallied from the immediate effects of the hemorrhage, dying, however, a few weeks later from the profound anemia which I was unable to overcome. Such examples of this are frequent, and prove, beyond doubt, that it is never too late, it matters not how desperate the case may seem, to make an effort to prevent, or at least to delay, what would otherwise cause certain death.

Let us suppose again, that a patient is brought to us suffering from acute obstruction of the bowels, such, for instance, as might be caused from strangulated hernia, volvulus or intussusception. Here, unlike the foregoing, the danger does not manifest itself at once, and it is only after much valuable time is lost in useless efforts to relieve the condition by manipulations and all sorts of purgatives, that a series of symptoms develop that indicate the real need for rapid surgical aid for saving life. The patient, his friends, and, sad to say, many times the attending physician, see nothing especially alarming about the colicky pains, vomiting and obstipation that first appear, and time glides quickly by, while the patient's chances for relief grow less and less under the alluring dose of an opiate and the hoped-for benefit from purgatives and high rectal injections. When, at last, the symptoms grow so pronounced that it is plainly evident that death is the penalty of further delay, the surgeon is called as a last resort. Another cheerless prospect! Still, even here there may be a few symptoms present that still hold out hope; the breath may not show that characteristic odor that is almost always a certain sign of approaching death; or the pulse may still be fairly strong and regular; or some other chain of symptoms may be present, which warrant a surgical operation.

Lastly, we shall consider briefly those serious surgical accidents that suddenly arise in the course of a severe illness of several days or weeks standing. As examples of these, I will mention the following: Perforations of the intestines from typhoid fever or appendicitis; abscesses rupturing and pouring their contents into the peritoneal or cranial cavities, such as occur from pari-appendicular abscess, pyosalpinx or abscess of the middle ear, and similar conditions. Here we have the complex problem of infection to contend with, more than either shock or hemorrhage; although shock, too, plays a severe enough rôle in such cases, and, in many instances, is the immediate cause of death. In all cases of perforation of the intestines, a marked impression is soon made upon the patient. He will present symptoms varying from slight, or almost imperceptible, to most profound shock, and more often this is of severe degree, and comes on suddenly, with a chill, sudden fall of temperature, weak and rapid

pulse and hurried respiration. The expression will be anxious and the skin will be bathed in cold sweat. This is the usual picture that we see in intestinal perforations, especially those following typhoid. In this condition of profound collapse the patient is apt to die, unless, as sometimes occurs, after diligent treatment of the shock, reaction gradually takes place. The temperature then rises, the pulse grows weaker and faster and the patient becomes restless and soon dies of general peritonitis. Here again the surgeon must take the chance and operate as soon as possible after such symptoms appear, as the danger will constantly grow greater the longer he waits. General anesthesia administered to these patients during profound shock is absolutely contraindicated, as it will probably of itself finish the patient. We must, therefore, employ a local anesthetic, or proceed with the operation without anesthesia, with all the haste consistent with good technic. Acute perforating appendicitis usually pursues about the same course, and should be similarly treated. In cases where abscesses rupture into the peritoneal cavity, we have infection alone to combat, and we have no certain means of estimating the exact degree of intoxication which will be produced in an individual case. Nature, as a rule, is very active in her efforts to provide means for protecting the general peritoneal cavity from the disastrous results of such invasions, by gradually forming bulwarks in anticipation of the trouble. This does not always take place, however, and when it does not we may be confronted with peritonitis as a very early consequence. No surgeon, nowadays, questions the propriety of operating in the early stages of peritonitis before the condition becomes general, but he may refuse to act in the final stage when death seems very probable; but even here it seems that the surgeon would be justified in intervening, except in those malignant cases where the intoxication is so profound as to make such a procedure impracticable.

The subject is one that is worthy of more careful thought, but if, from what I have said, I can impress upon the minds of a few of the profession the extreme importance of keeping up the fight in desperate cases, even in the face of what appears to be certain death, I shall feel repaid for the effort.

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CONGENITAL PYLORIC STENOSIS.

HENRY W. CHENEY, M.D.

CHICAGO.

This disease, although rare, is occasionally encountered and we should, therefore, be familiar with its various phases. The number of cases on record is about 160. It occurs most frequently in well-nourished, breast-fed infants, not immediately after birth but some days or weeks later. The earliest onset of symptoms reported was the first day; the latest, about the eighth week. In the recorded cases, boys have been more frequently affected than girls. The clinical picture is usually more or less uniform. An apparently healthy child begins, at the age

of a few days or a few weeks, to vomit, without apparent or recognizable cause and the vomiting remains as the prominent symptom. Other symptoms depend more or less on this, such as decrease in the quantity of urine and feces and rapid loss in weight. In most cases, these symptoms increase in severity and the child dies, practically of starvation, in a few weeks or months.

In a few cases, the course is more favorable and the patient goes on to recovery, even after the most distressing symptoms.

Etiology.—Practically nothing is known about the etiology. As the disease occurs in the youngest and, apparently, most healthy infants, it is probable that digestive disturbances or diseases of the intestinal mucous membrane have little or nothing to do with its causation. The condition may be an error in development, since cases have been recorded in which there was, congenitally, a complete closure of the pylorus.

Pathology.—Pathological conditions are divided into three classes: 1. A more or less persistent muscular spasm of the muscular fibers of the pylorus and not a true hypertrophy. Undoubtedly, this is the condition, in a certain percentage of the cases. I agree with those authors who say that this is a separate disease and should be called congenital pyloric spasm and not hypertrophy. 2. A primary hypertrophy of the mucosa and muscular fibers of the pylorus, i. e., a developmental defect or malformation. 3. A secondary hypertrophy of the muscle, dependant on or due to another cause, such as continued pyloric spasm, erosions or fissures of the mucous membrane, hyperchlorhydria, etc. The second and third classes really constitute the true hypertrophic pyloric stenosis.

Macroscopically, one finds the pylorus, by autopsy or operation, to be thickened to several times its normal size, hard, elongated and tumor like. The lumen of the sphincter varies, sometimes it is nearly normal, sometimes so small as not to admit the finest probe. Microscopically, the specimens usually show a great increase in size of the sphincter muscle and of the number of circular fibers. The longitudinal fibers may also be increased but not usually so much as the circular. In one case reported, the mucous membrane or glandular coat was greatly thickened and the other coats not so much so.

Symptoms.—1. Vomiting. This is the first and most prominent symptom. It may begin when the babe is a few days old or the child may be perfectly well for a few weeks and then the vomiting begins suddenly. In the case here reported, the babe was four weeks old when the vomiting began. The vomiting is occasional at first; later it occurs oftener and, finally, after every feeding, either immediately or following in an hour or two and is explosive in character. The quantity vomited may be small but often the remains of several feedings accumulate and are discharged in large amounts at one time. In persistent cases, the whole of every feeding is thrown up almost as soon as taken. The vomited matter consists of the milk, more or less digested, according to the time it remained in the stomach. Bile, as a rule, is not vomited.

2. Character of Stools.—The bowel movements may be almost entirely absent, or, if occurring, are small in quantity and contain little or no

food remains. The stools consist largely of mucus and are slimy and dark brown or gelatinous and dark green, possibly resembling a meconium stool. The urine secretion is also diminished or almost absent.

3. A continuous and rapid loss in weight and strength of the child caused, of course, by the starvation.

4. Form of the Abdomen.—The lower half is flat or sunken in while over the epigastric region it is somewhat distended.

5. Peristaltic Movements of the Dilated Stomach.—This symptom is rarely absent and consists of a visible swelling or bulging forward of the abdominal wall over the stomach, which condition appears and disappears. Sometimes, a furrow may divide the swelling into two peristaltic waves, which arise under the ribs on the left side and pass slowly across the upper abdomen and disappear at the edge of the liver. These waves pass from left to right and are caused by the contractions of the dilated stomach working against the closed pylorus.

5. Tumor.—A small movable tumor can sometimes be felt in the region of the pylorus. This may be about the size of a hickory nut and when palpable is a most valuable diagnostic sign.

In the form of the disease designated by some authors as pyloric spasm, the symptom-complex is similar, though not so marked. The vomiting is not so regular, continuous or explosive, perhaps resembling more a regurgitation. There may be periods, possibly a day at a time, when the child does not vomit. The loss in weight is, therefore, not so rapid nor so marked. Diarrhea may alternate with obstipation. Visible peristaltic movements may rarely be present but the pyloric tumor almost never. As a whole, the symptoms of spasm of the pylorus do not seem to be so urgent nor the unfavorable course of the disease so rapid.

Diagnosis.—The essential symptoms on which the diagnosis should rest are, the persistent vomiting, obstipation, emaciation, visible peristaltic waves over the stomach and pyloric tumor. The last two symptoms are conclusive and, in the absence of both of them, one would hardly feel justified in making a positive diagnosis. One must differentiate hypertrophic stenosis of the pylorus from: 1. The simple spastic form, in which the symptoms are all of a milder type, with perhaps an occasional remission of all alarming symptoms. 2. The very rare conditions of congenital atresia of the pylorus or absence of any opening whatever, in which the most severe symptoms appear from the very first day of life and lead quickly to a fatal termination. 3. A congenital narrowing or closure of the duodenum, in which the vomiting of bile is the differentiating point. We need hardly consider the differentiation of chronic indigestion, peritonitis or meningitis, for a careful consideration of the clinical picture of each will set us right.

Prognosis.—This disease is a most serious one and nearly all positive cases terminate fatally, unless the stenosis is relieved by surgical intervention. In the occasional cases which recover without operation the question of the accuracy of diagnosis can usually be raised.

Statistics founded on recoveries in non-operative cases are, therefore, unreliable because of the uncertainty of diagnosis. Heubner, of Berlin, does not consider the trouble so serious and reports some cases as recovering, under palliative treatment alone. These may have been the simple spasmodic form. The majority of authorities, however, are of the opinion that true cases of hypertrophic stenosis end regularly in death in a few weeks or months, unless treated surgically.

Treatment.—In the beginning of all cases, the diagnosis between the true hypertrophic and the spastic form will probably be in doubt for a few days or longer, until the symptoms are positive enough to decide. During this time, a line of treatment more or less dietetic and medical can be carried out. If the child is breast-fed, this nourishment should be continued, only one-half or one-third of the usual quantity should be allowed and the nursing intervals might, perhaps, be shortened. If not successful, the child should be tried, if possible, at the breast of another nursing mother to see if it vomits that milk; also if the child is too weak to suckle, it should be fed mother's milk with a spoon, or, if necessary, through an esophageal tube. If the child is artificially fed, it should receive small quantities of a proper food at frequent intervals, perhaps every two hours, and the food should be given after the child has vomited, if it is possible to do so. We should try to ascertain just the quantity the stomach will hold, without producing vomiting, and then endeavor to increase this gradually. If no food is retained in the stomach, rectal feeding may be resorted to.

A valuable procedure is the regular washing out of the stomach. This should be done two or more times a day, with the usual apparatus and warm sterile water or a 3 per cent. sodium bicarbonate solution. After the washing should follow the feeding. Protracted warm baths may be tried, also hot applications over the epigastrium. Medicine is probably of little value. Minute doses of morphin and atropin may be tried, with the possible effect of relieving the spasm. Lime water or sodium bicarbonate has been recommended to counteract the hyperacidity often present. Laxatives should not be given.

Surgical Treatment.—Three types of operation have been done for this condition, viz.: 1, gastroenterostomy, which is the choice of most surgeons; 2, pyloroplasty, a plastic operation on the pylorus; 3, divulsion or the Loreta operation, which consists in incising the stomach and endeavoring to dilate the pylorus with forceps.

Dr. George F. Thompson of this city, in a recent article, has collected all the recorded cases of surgical treatment of this disease. He finds a total of 89 cases operated on which includes the case here reported. Of these pyloroplasty was done once, with a fatal result; pyloroplasty was done 12 times, with 6 recoveries; divulsion was done 17 times, with 8 recoveries; gastroenterostomy was done 59 times, with 29 recoveries. This gives 89 cases in all, with 43 recoveries, or about 54 per cent. cured, which is an excellent showing for such a serious condition. The operation for gastroenterostomy is growing more in favor and I believe, other things being equal, will become the operation of choice.

For us, it is most important to bear in mind that this condition exists in infancy; that it may often be mistaken for chronic indigestion; that it is evidently far more common than has previously been thought; that the medical treatment is disappointing, to say the least; that the results of surgical treatment are most encouraging and that we should not hesitate to urge a prompt operation in every case as soon as the diagnosis is positive.

As an example of a typical case of hypertrophic stenosis of the pylorus in which a successful operation was done, I wish to detail the following history: This boy baby was born one year ago, the second child of healthy parents. The first child, also a boy, was nursed by the mother and is living and well. This baby had a normal delivery and weighed eight pounds. The mother had plenty of milk and this nourishment seemed to agree with the child, occasionally there was some regurgitation. The stools were normal. At the end of a month, he weighed nine pounds. When the babe was four and one-half weeks old, he vomited two or three times a day. The next day he vomited several times and the father came to see me about it. Thinking it might be an acute indigestion, I prescribed the usual calomel, in tenth-grain doses. On the third day, the child vomited oftener, usually after a feeding. I suggested stopping the breast entirely for a day and giving barley water. On the fourth day, breast feeding was allowed again but only a small quantity each time, the baby to nurse but five minutes at each nursing. On the fifth day, nursing was continued and the child was allowed to have a larger quantity than the day before. Vomiting now occurred regularly, soon after each feeding. On the sixth day, I saw and examined the child for the first time, when the mother brought him to my office. Babe appeared to have lost in weight. Mouth, tongue and throat normal, heart and lungs negative, abdomen slightly distended, no tumor palpable. Urine reported small in quantity and bowel movements very slight or none at all. I passed a small esophageal tube and washed out the child's stomach with warm sodium bicarbonate solution. At this time, I was strongly impressed with the idea that the case was not an ordinary gastritis or indigestion but that it might be pyloric stenosis. On the seventh day, peristaltic waves over the stomach were noticed for the first time. The child had lost two pounds in weight during the week's illness. Vomiting was persistent and explosive at times. Dr. J. A. Capps and Dr. A. D. Bevan examined the child on this day and an operation was decided on. It was taken to the hospital and operated on by Dr. Bevan, the morning of the eighth day after the appearance of the first symptoms. The date of the operation was Dec. 10, 1905.

Operation.—Under chloroform anesthesia, a median incision was made and the stomach and duodenum brought out of the opening. At the site of the pylorus was a firm, somewhat hard, rounded and rather elongated mass, the size of a hickory nut. A gastroenterostomy was quickly done, the coaptation made by two rows of sutures. The stomach

and intestines were then dropped back, the external wound closed and the child returned to bed in good condition.

There was no recurrence of the vomiting after the operation. Three hours later, there was a brown liquid stool and, fifteen hours later, a yellowish bowel movement. After this, the bowels moved two or three times a day, more or less natural in character. The temperature was $102\frac{1}{2}$ F. on the first day. After the third day the temperature was normal. The child was fed by enema the first day and, thereafter, was allowed to nurse from the mother, a small quantity at first, gradually increasing later. It left the hospital the sixth day after the operation. The mother continued nursing the baby and he thrived fairly well, although he did not gain as fast as the normal. After the second month, he was fed a milk mixture once or twice daily in addition to the breast feeding. When he was about eight months old, the mother had to give up nursing him entirely, because her milk failed. Ever since the operation the bowels have been inclined to be loose, three movements a day being the average, some days four or five, but yellowish in color and fairly well formed.

During the summer, the family were away from the city and the babe not having the careful attention necessary, was fed improper milk mixtures and developed a subacute indigestion with diarrhea and loss in weight. Soon after my return to the city in September I found the child having a movement of the bowels after every feeding; within ten or fifteen minutes the curded milk would come through almost unchanged. The boy was ravenously hungry, fretful, crying and emaciated, his weight having fallen to twelve pounds. In consultation with Dr. Capps, we were of the opinion that the gastric and intestinal mucous membrane had become so irritated on account of the enteritis, that the abnormal opening between the stomach and the bowel did not allow the food to remain long enough in the stomach and that it literally ran through the patient, without being digested or absorbed. The outlook for the boy at this time was exceedingly grave. He was put on a half milk, half barley water mixture and ten grains of bismuth subnitrate before each feeding, to control, if possible, the diarrhea. This was not effective, the movements being but slightly checked and some of the powdered bismuth appearing unchanged in the stool. Then five drops of the camphorated tincture of opium was given half an hour before each feeding. This controlled the excessive peristalsis and limited the movements to one or two a day. The boy began to gain in weight and the stools to be more natural. The opium was continued for about two weeks, gradually reducing the dose. The proportion of milk in the food was increased until at the age of eleven months he was taking whole milk and gaining regularly in weight. He now has an average of three movements a day, well formed, pasty and yellowish in color. He is able to eat crackers, toast and is beginning to take small amounts of egg. His condition is satisfactory and he weighs sixteen pounds and twelve ounces.

As far as I can learn this is the second successful operation for this condition in Chicago. Dr. F. X. Walls reported the first successful one done in January, 1905. Five recoveries after operation have been reported in the East, three in Boston and two in New York City.

ON PRESCRIBING.*

H. J. ACHARD, M.D.

ELGIN, ILL.

In writing a paper on prescribing, it was not my intention to give a learned dissertation on how to construct a scientific prescription. I have, rather, made the title of my paper general in order to reserve to myself all the liberty needed, that I might say some things on prescribing, its uses, abuses and misuses, and also on dispensing, as the ideas have occurred to me and as they have been jotted down in the course of the last few years. If I speak on the prescribing of proprietary articles, I do not feel that an apology is due, because, although that subject has been well thrashed out, I may have something to say which has not yet been said. I may also have some suggestions to make which have a direct bearing on a practical solution of the abuses of prescribing, as well as of dispensing.

Some time ago I received a pamphlet from a well-known New York firm, containing a "paper" on the treatment of anemia. This treatment is, of course, found in the preparation handled by the firm. At the end of the article there appears an admonition to the physician to beware of substitution and imitations, to prescribe only this particular preparation as the only true and genuine one, and to prescribe it in the original packages only. This is an example of many similar recommendations made to physicians. Now the preparation in question is of German make, or is supposed to be. Our own manufacturing chemists have for years made identical preparations, which give, in selected cases, excellent results. Query: Are these latter remedies imitations, and is the physician who prescribes these preparations, instead of their German prototype, *particeps criminis substitutionis*? What, indeed, is substitution? And how far is the physician morally, or in courtesy, or for any other reason bound to prescribe original packages of proprietary preparations, if he use them at all?

Have certain American firms committed a breach of any code in manufacturing such a preparation, and has the German manufacturer, in any sense, a monopoly on the formula? Granted that such be the case, how are we, then, different from the advertising quacks and secret nostrum venders whom we are fighting, tooth and nail, for the greater public safety? But such a claim is in every sense opposed to the traditions, uses and ethics of the medical profession who have ever given their knowledge and discoveries and inventions freely and gladly for the guidance and greater efficiency of the guild, and for the public welfare.

* Read before the Fox River Valley Medical Association, at Aurora, Nov. 15, 1906.

I maintain that a physician may prescribe a preparation of any make, without being guilty, even in a Pickwickian sense, of wrong doing. But let him specify any single manufacturer, and if the druggist were to dispense any other preparation, although it be practically identical, that would be substitution, and would be wrong. I hold that it is as little wrong for the first mentioned, or any other manufacturing chemists, to prepare the compound according to the German formula, as it is to prepare the alkaline antiseptic tablets, Seiler's, or any other preparation suggested by any physician and accepted by the profession.

This opening discussion leads us, by an easy transition, to a consideration of the almost general manufacture and prescribing of proprietary preparations, which are, in part or even wholly, secret as to their composition. The medical profession has, until recently, allowed *The Ladies' Home Journal*, *Collier's Weekly* and other publications to fight the battle against medical sharks, a battle in which physicians ought to be the champions: because a crusade by physicians against quackery would be ascribed to self-interested, ulterior motives. In like manner the irregular practitioners have enjoyed comparative immunity from interference with their dishonest practices, because the regular practitioners were afraid to enter the fight, lest their motives be impugned. But why should not physicians demand class legislation as their due? No one may dispense the sacraments of the church unless he has passed a prescribed course in theology and has been regularly ordained. The bar association looks sharply to it that none but duly qualified attorneys and barristers shall practice law. The very artisans' and craftsmen's unions insist on proper apprenticeship and do not allow any one, not a member, to work at their trade. They even go further and limit the number of those admitted to their unions. Then, why should not physicians insist on having admission to the practice of their art carefully hedged in and guarded? Why should we not have the right to bar all not properly qualified from admission to the profession? Does not the physician carry the life of his patient in his hands? Is it not of primary importance that he should be well qualified and that he should be of exceptional moral rectitude? These points being admitted, it becomes clearly our duty as physicians to protest against the perversion and sophistication of the means by which we fight disease. It becomes our duty to see not only that a proper and exact knowledge of materia medica and therapeutics is acquired by the medical student, but also that the knowledge thus gained is used in practice. Again, it becomes our duty to discourage, by non-support and by actual antagonism, the indiscriminate manufacture of proprietary and more or less secret preparations. The most reckless traffic in these preparations has been carried on, and, perhaps, the most harm by their reckless use has been done by the various coal tar preparations. Among all these, the most evident example is offered by the headache cures with fanciful names and extravagant write-ups, which are "ethically" introduced to the profession, by them carelessly to the laity, and then purchased by the latter at will. It is hardly a violation of courtesy to take a certain St. Louis firm for example, for these people have turned against their former friends and are advertising their wares most unblushingly to the laity.

When they first sent out their handy little boxes, physicians were very apt to hand them over to their patients, with the advice to try them; thus the name was published, and next time the patient cures himself without the help of the doctor. I would say, in parentheses, that the sample evil ought to be put down, that samples ought only to be given at special request, and then of a sufficient amount for proper clinical test. As reminders of really meritorious preparations, blotters, peneils, paper cutters, and all these little nick-nacks now distributed to physieians serve very well and are no doubt less expensive than the samples.

It goes without saying that physieians ought never to be asked to use and prescribe any preparation unless they are fully and freely informed of its composition. It does not seem extravagant to say that all preparations worth using are fully quoted and described in the catalogues of all leading manufacturing chemists, and that all the tonics and sedatives and antispasmodics and anodynes made and pushed by the hundred and one lesser "chemical companies," by preference located in St. Louis, could be easily spared and would not be missed if their plants and entire stocks should suddenly disappear.

The causes of the lazy prescribing of ready-made proprietary articles are manifold. There is no doubt that the therapeutie nihilism affected by many teachers and young practitioners has something to do with it. The patient is questioned and examined, the general directions are given, yet there remains something to be done to satisfy the patient, something tangible in the treatment, which convinces him that the doctor is doing his duty, and that he, the patient, is getting his money's worth. How many patients do you know who are satisfied to receive general hygienic directions, who do not think that unless they get a prescription, their visit to the doctor was useless? That being the case, and the doctor being skeptical about the value of any therapeutic measure, he jots down some little compound, which, while not of much good, can not do much harm. But is it true? Will it not do harm? The question is not by any means decided. Again, owing to the notoriously insufficient teaching of therapeutics in our medical schools, the young graduate is painfully uncertain in the selection of his remedies. He may be satisfied of the correctness of his diagnosis, but the treatment, there is the rub. Then steps in the affable and all-knowing agent, like a *deus ex machina*, and kindly relieves the "doctor" of all responsibility. Debility? Oh, so simple. Phosphorized this, that and the other. But, doctor, be sure and specify A. & B.'s make if you want to get results. Just write for these things and you will get on like a house on fire. Just so. But you will never be a doctor, or, rather, a physieian, until, after many failures, you begin to study the patients and study the drugs, the simpler the better, and until you learn to adapt the medicine to the patient, instead of the patient to the medicine, which latter method is apt to be diastrous to the patient, and incidentally to the doctor. The *pons asinorum* lies in prescribing these very preparations which are so temptingly set before the physician, and woe to him who is too lazy to do his own thinking. He would better be a

cobbler or a tailor, or even a preacher, than to play at hazard with the lives of his fellow-men.

It is a good sign that the present tendency in therapeutics is toward greater simplicity. Shotguns have gone out of fashion, and justly so, and, while in a given case the indications may be complicated, they admit almost invariably of reduction to the simplest principles. Personally, I consider it to be another good sign that the tendency in therapeutics is not only toward greater simplicity, but also toward greater exactitude of preparation and dose. Where the old extracts and tinctures are used, we are careful to see that they are assayed, so that we may have a guide as to their effectiveness. But there is no doubt that the principle of alkaloidal medication, with its exact strength of preparation and dose, is gaining ground more and more. It would be entirely beyond the limitations of my paper to discuss the alkaloids here, but I hope to do so at another occasion.

It would be foolish and vain to assert that all proprietary preparations are, of necessity, useless or evil. In fact, many have decided merit. But in general I would deprecate the free use of ready-made preparations, more or less secret in composition, as lazy, unscientific and not quite honest; and I venture to assert that it is better to master thoroughly and to use twenty remedies which admit of a great variety of combinations than to know the names of a hundred compounds and to prescribe them "according to directions on the label."

These labels contain almost invariably, besides some sort of a formula, a list of diseases in which the remedy is said to be indicated, almost as cock-sure and gaudy as the yellowest patent medicine-circulars. The wrapper around the bottle, or "literature" accompanying the package, contains testimonials and write-ups from so-called physicians who actually sign names and degrees, much worse (because written with greater knowledge) than the much decried testimonials of congressmen. Even symptomatology and etiology of the diseases to be treated are given in this literature, so that the "busy" physician need not look up his text-books and journals. How that compliment of being called a busy physician catches the poor suckers! In short, everything is done to make the physician less self-reliant, less of a worker and thinker and more dependent on the philanthropic purveyor of medicines ready for use. I would suggest that those manufacturers who really have a meritorious preparation for the exclusive use of physicians give full formula and all other information desired, but only on the wrapper, *leaving the bottle or box entirely free from any printing*. Then, if any original package is prescribed, the druggist can affix his own label and write the directions as given by the physician.

The reckless use of the coal-tar preparations has so often been discussed and so severely blamed that I need not do so in this instance. Shall we tell our patient what he is taking? In general, no, decidedly not. Patients are altogether too apt to get a smattering of remedies and to form very decided opinions as to what drugs they can and can not take. But, on the other hand, it is well to educate people to a practical knowl-

edge of the simpler domestic remedies, a proper and timely use of which may often be the means of saving life, of tiding over a period of great danger until the doctor comes. Who owns the prescription? This vexed and vexing question has been variously decided in the courts. I hold that the physician who writes the prescription owns it. It is an order on the druggist to dispense a certain remedy or combination of remedies to a certain person for a certain cause. To have this prescription refilled without the advice of the physician is like demanding a second payment of a check or like using a canceled postage stamp over again. The prescription should, like the check, be returned to the writer, and the druggist should only keep a copy, without being permitted to furnish the patient with one.

The use of proprietary articles has often made us lose sight of the fact that we must prescribe for conditions rather than for names of diseases; that we must, of course, attend to the underlying causes while we consider and treat the symptoms as they arise. In short, prescribing is not copying of formulæ ready furnished, but an art only acquired by painstaking study and practice, which involves an intelligent comprehension of the whole symptom-complex presented to us, and the knowledge how to meet the requirements of the special case in hand.

ILLINOIS MEDICAL JOURNAL

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FEBRUARY, 1907.

THE TRUTH OUT AT LAST.

For many years complaints from members of the medical profession, cognizant of the disgraceful conditions existing in most of the state institutions of Illinois, have found voice at the meetings of the State Society and in the medical journals of the State Society. These complaints and expressions received scant courtesy from the gentlemen conducting the political affairs of Illinois and usually the person daring to speak out in meeting was promptly squelched and the impression given out that slander was being uttered on the people of this great and beneficent commonwealth of the middle west.

There was little hope for a change in conditions until fortunately a gentleman of well recognized ability consented to head the state board of public charities. It is well known that he entered this work at a great personal sacrifice. Dr. Billings is therefore a man whose standing permitted him to speak the truth and this he did recently before the members of the legislature in the state supreme court rooms at Springfield, Thursday, Jan. 17, 1907. In this address Dr. Billings brought out the fact that "Illinois was second in number of inmates cared for in state institutions; also second in wealth and last in the sense of the proper care of dependents. Only two institutions, both practically new, are even in

good physical condition. Some of the old institutions are in bad shape, so bad in fact, that no one not directly connected with them could believe the condition they are in. People in Illinois have got to the point where they consider hospitals for the insane places of detention only. At few institutions is there any attempt made at skilled nursing. Training schools are absolutely necessary. The great benefits of hydrotherapy are practically unknown." Dr. Billings might have truthfully said that the medical men are overworked, underpaid, and possibly not adapted for the positions they fill. Up to this time the tenure of their office has been uncertain. They are not encouraged on this account to put forth their best efforts and make this their life work. If Dr. Daniel Brower needed any vindication for everything he has been saying in the last ten years he got it in that address.

The Governor heard these remarks of Dr. Billings and could utter no word of contradiction except in one instance where a correction was made of his statement regarding the confinement of prisoners in the Joliet penitentiary.

The politicians who have in past years been administering copious coats of whitewash to past administrations should have been present and heard the exposure made by Dr. Billings. Fortunately Dr. Billings did not stop here. He urged the necessary care of epileptics. The number of those afflicted with this disease in Illinois, he stated to be 10,000; over 1,000 of them confined in the various hospitals of the state and in the institution for feeble-minded at Lincoln. He advocated the appropriation of \$265,000 for the purchase of the necessary land and the construction of buildings for an epileptic colony. He advocated some provision for the commitment of acute insane without a formal order of the court. He believes that a school for the study of mental diseases should be maintained by the state. He urged that some provision for the treatment of tuberculosis be made. In fact, nothing that has been urged by the profession for the betterment of existing conditions was omitted by Dr. Billings.

We trust his address will have a good effect and that a new era is about to dawn for the State of Illinois. We congratulate Dr. Billings on the courage shown by him in speaking the truth, but above all we congratulate the people of the State of Illinois that a man has been found who dares to speak out and let the world know of actual facts no matter how disagreeable these may prove to be.

Finally, brethren of the medical profession, let us use our influence with the Legislature to have these great and necessary reforms carried out. Without the support of the profession and the people the Board of Charities can accomplish nothing. With their support all may be done.

MEDICAL DEFENSE PROVES POPULAR.

From all parts of the state come evidences of a large increase in the membership of local societies, and upon inquiry, we are led to believe that a great part of this increase is due to the Medical Defense Fund idea adopted at the last meeting of the State Society. The popularity of this measure is true, notwithstanding the fact that a few persons, probably through a misunderstanding of the principles involved, have endeavored to cast suspicion on the members of the State Society and prevent contributions for this purpose by misstatements and agitation. In this issue will be found notes of three malpractice suits that have been instituted in the past thirty days. One in McLean County, one in Piatt County and one in Christian County. We will be obliged to the secretaries of County Societies if they will send a report of suits started in their county. We believe we can safely say that no feature of the work of the State Society will be so beneficial to the members of the profession as this matter of medical defense and that another year or two will see it taken up by every State Society in the union. It has already been adopted by the states of New York, Pennsylvania and Illinois.

A MODEL COUNTY SECRETARY.

Jo Davies County, Illinois, is fortunate in having an ideal secretary of the County Medical Society. Dr. D. G. Smith of the large Smith family is his name, and it is safe to say that no member of the society remains uninformed as to the meetings and proceedings of that organization. Dr. Smith generally gets out a preliminary notice about two weeks before the quarterly meeting and then about three days before he sends a postal to every member warning them of the date and urging them to be present.

He tackled the insurance problem by having every individual in the county personally sign an agreement in regard to fees. He jollies up the members so that everyone comes prepared to pay dues and the books of the State Society, we believe, show that there has never been a delinquent on the Jo Davies County list.

Dr. Smith is certainly one of the born secretaries and we can recommend him as a model to all other counties in the state. The County Society is his hobby and the results show the effects of his careful nursing.

DR. McCORMACK'S REPORT ON CONDITIONS IN ILLINOIS.

In this issue will be found a copy of the report made by Dr. J. N. McCormack, Chairman of the Committee on Organization of the American Medical Association, concerning his visit through Illinois in April last. There are certain parts of this report that should be pondered deeply by the medical men of the state and we believe it is high time that some-

thing should be done to correct conditions which Dr. McCormack states has made Illinois a veritable paradise for quackery in every conceivable form.

We know too well that Dr. McCormack speaks the truth when he says that the medical laws have been practically broken down and that the profession and people do not receive the protection from quackery to which they are entitled under the plain letter, as well as the spirit, of the law, because the organized profession and the State Board of Health do not coöperate in securing and enforcing legislation.

In fact, this whole letter should be read and reread by every honest medical man in the state and its lessons taken to heart.

THE USE OF TUBERCULIN REVIVED.

A recent meeting of the Chicago Ophthalmological Society was largely given over to the report of cases of iritis in which Koch's original tuberculin had been successfully used; cases being reported by Drs. A. E. Bulson, Jr., of Fort Wayne, Indiana. W. E. Gamble, E. V. L. Brown and W. H. Wilder of Chicago, and H. B. Young of Burlington, Iowa, all of whom reported highly encouraging results from the use of this remedy.

Dr. W. A. Evans of Chicago, closed the discussion, by invitation, and stated that from his extensive experience he is firmly convinced of the reliability, safety and absolute necessity for the diagnostic use of tuberculin. He employs one dose of from 5 to 10 mg. of old tuberculin after a week or so of careful study of the pulse rate and temperature, four times a day. He gives the injection late at night so that the period of greatest local and general reaction will occur during the following day time.

In view of these satisfactory results where the process of repair can be clearly seen, we feel justified in calling the attention of the general practitioner to this important matter. This is another evidence of the reliability and thoroughness of the work of Prof. Robert Koch. Those familiar with his career are aware that Dr. Koch has made few, if any, statements which were not verified by time and experience.

FINAL PREACHMENT.

J. F. PERCY, M.D.

President of the Illinois State Medical Society.

GALESBURG.

To the Editor:—In the discussion that I have tried to maintain in the recent numbers of THE JOURNAL of some of the problems affecting the members of our profession, I am impressed more than anything else with the fact that the physician working alone is handicapped in the

greatest degree. If our patients are scattered over a considerable territory, and we are compelled to go to them, the time element determines, in large measure, what we are to get out of the practice of medicine. The time that is consumed in the seeing of patients is greatest in the country, and least in a hospital, if the practitioner has the greater number of his patients there.

Another consideration is the physical condition of the individual practitioner. The doctor who is compelled to make many long drives in a day has to give up more of himself than the one having all of his patients in a hospital. Few of us have ever been known to pray for more brains, but the prayer for greater physical endurance is, I believe, not uncommon. The man who, with an average amount of brains, makes good use of them in the practice of medicine, and who at the same time possesses a physical resistance to fatigue beyond the average, will, in the degree that he possesses the latter, distance his colleagues. How many times has each of us been caught napping by the practitioner who was so situated as to have his patients in a bunch, and, therefore, with more time to devote to them when he made (to illustrate) the urinary examination that we were too exhausted to attempt. Just in the degree that we can not do everything demanded by present-day progress in the practice of medicine the *something* that we leave undone, sooner or later, will catch us.

The collateral aids to diagnosis alone were never more insistent than at the present. The laboratories are developing them to a degree that must be very gratifying to the laboratories and scientists generally; but what of the physician working alone, not only in the country town and smaller city, but in the great city as well, who finds at the end of the day or the end of the year that practically all of the time has been consumed with seeing cases?

I was in a physician's office recently where his copies of THE ILLINOIS MEDICAL JOURNAL for the past five months were lying on the top of the desk, still in the wrapper in which they had been mailed. He was a subscriber to several other medical journals, and they, too, were unwrapped. This physician said to me that when he was through with his work, which in this instance, meant seeing his patients, he was too tired to read. If one does not read journals, one does not read books. If one does not read books, that one does not progress. If one does not progress, then that one goes only so long as he finds the knowledge of value which he acquired when he did read books and journals. When book and journal reading stops, we have nothing left but what was given us in the medical school which sent us out for the weal or woe of an unsuspecting public. It takes this same unsuspecting public about five years to learn that we have ceased to read books or journals. True, if one is a good bluffer, he may continue to exist as long as he can make his bluff good; but it is always a precarious sort of experience and one fraught with many pitfalls.

Some years ago, and in another place, I wrote as follows:* "Many

* Journal A. M. A., Aug. 13, 1904, p. 479.

patients will prevent the unaided physician from even attempting an accurate diagnosis; hence medical men are drifting into specialism, because they instinctively feel that this will give them a better opportunity to see a larger number of cases of one class. All things being equal, it will; but the result usually is that we have a one-sided practitioner, which is unfortunate both for medicine and the public. After the specialist has learned his limitations, he calls to his aid other specialists."

And, again: "As a general proposition, the man in medicine, be he general practitioner or specialist, working alone, is seriously handicapped because time prevents his using the very methods that would mean so much for him in the betterment of human health. The lone specialist, under these conditions, can not hold his place; and the general practice of medicine will likewise fail to progress in proper measure until some method can be adopted whereby the profession, in large numbers, can really use the facts provided by the schools and laboratories. Too many subjects are imperfectly taught; the profession is crowded with more than it can carry in the way of undigested knowledge. This can be said of all professions and all teaching; but it ought not to be true of medicine. The public has been taught of late that the science of medicine is traveling in seven-league boots. This is true in the greater measure only of that part which deals more particularly with the investigation and experimental side of medicine. I repeat, unfortunately, the results attained by this class of workers can not find its highest place until it can be utilized by all. The schools and laboratories are never going to get this knowledge into the hands of the profession while the present methods for its dissemination are depended on. The supply is greater than the ability of the average man to use it." And so we are confronted with a condition of affairs that would seem to threaten the fullest usefulness of the individual practitioner. What is the use of urging, one may well ask, the attendance at the meetings of our county and state societies if the life of the doctor in medicine is to be circumscribed by conditions that seem inexorable?

I have tried to point out in these articles some of the things that are keeping too many of us from realizing the full measure of our possibilities. In one I have insisted upon the necessity of greater loyalty to our colleagues; and although this insistence does not bring it about, it does tend to improve the conditions that have been a blight on the profession for so long. In another I urged that physicians do not change their location until they were sure from every viewpoint possible that it was for their best interests. In that same article I tried to point out the loss from failure to mix with those working with us in the same profession. The burden of my statement last month can best be suggested, perhaps, by the statement that "direct application of the science of medicine, as an art, to the individual patient, by the physician working alone, has not advanced as it should." In great measure, the physician is to blame for this. The man working alone, who does not read the leading articles in at least one good medical journal a week, loses out. To say that this can not be done shows merely an inexperience that is to be pitied. It must

be done if anything worth while is to be gained from the practice of medicine. That it is not done is one of the explanations of the failure of the laboratories and clinics to do the profession the general good that they could and would do if more physicians would soak themselves a certain length of time each week in the best medical literature. A physician who will spend an hour a day in reading medicine would finally become a prince among his fellows, unless it be that he, unfortunately, is a fool in some other direction.

But after all is said and done, the fact remains that only a few among the many in the medical profession ever realize the importance of scheming with high motives for their own advancement. Environment, heredity, inclination, and that "I-don't-care" attitude add to this, and will always keep a certain proportion in the tread-mill of professional narrowness. But to the men or women in the practice of medicine who feel the inspiration to add something for the general good, in addition to high character, and yet think that they are circumscribed by conditions that can not be altered in a lifetime. I want to say that there must be a way for improvement if they will but work it out. As I have already said, I am sure that in the majority of cases it will not come by leaving the present location. Neither will it come by working the social, lodge, church or newspaper personal item growler. Success in medicine, after all, is only what our colleagues are willing to subscribe for us. In the beginning, true, they often seem to be harsh critics, to say nothing more emphatic, and very reluctant to push us up; but if we make good, they become our over-generous friends, giving us much more than what we want to know, we really deserve.

In the concrete, as I see it, the situation is this: Alone, the physician is circumscribed. He does not get the time he should have for reading, for making a good diagnosis, for using laboratory methods, for observing the work of the leaders in professional thought and action. He knows very little about his county, state or national medical society. Some men, realizing these things, have, in order to meet them, gone into a partnership. But this rarely works well. Why, need not be entered into here except to say that a partnership is all right where the parties to it are temperamentally congenial. This can never be determined on the basis of a short experience, and to experiment is too distracting, to say nothing of the time it takes. Another method that has more promise is the one by which some one is put in the office to be trained as a non-medical assistant. In every community there is some one who could be trained to take from the doctor an immense amount of small routine work, which would give him time for something more profitable. I have known assistants of this kind who became invaluable, not only in the examination of sputum and urine, both chemical and with the microscope, but in the correct dressing of wounds, the application of bandages, splints, and in the thousand and one things that are required about the office of a busy doctor. Such an assistant can be sent to a laboratory for a week or two once a year, where they pick up not only a lot of inspiration, but many facts that will be helpful in the work of the master at

home. Such an assistant, with a little care, is easy to get and will return many fold all that is paid them, even when well paid, as they invariably should be. And, again, no physician has any right to be working alone in such a way that he is cutting himself off from the good that he could and should get out of his colleagues.

No single individual in these days can be a whole doctor. It takes three or four good all-around men to make one good, big doctor to-day. What would a Billings or a Senn be if it were not for their assistants? The Bible says: "For where two or three are gathered together in my name (the name of medicine), there am I in the midst of them." Men trying to work alone in the practice of medicine may think that they are physicians in the fullest sense, but they are not unless they have qualifications that are so rare as not to count in this argument. Every town in which are located from two to four physicians ought to have a medical college in which the student body and the professor are made up only of the two or four physicians in that town, as the case may be. This college should be established by these four men for the education of themselves. In the larger towns the same thing can be done. Two, certainly not more than five, physicians who are congenial to each other (and even if they are not, they should do it anyway for the general good) can get together and arrange their work so that they will be placed in a position of mutual helpfulness. If they attempt no more than the systematic study of their cases, it will be a great step in advance. But this arrangement need not involve the partnership idea. Let them follow this consistently and all things will be added unto them.

In my recent travels about the state I found a town where this plan has been followed for a long time. There are three men there. One rather young in years, the next a middle-aged practitioner, and the last a newcomer, who was untied from the apron strings of his Alma Mater but a few years ago. I found that these men frequently get together and consult about their cases. Often all three will drive out in the country to examine a case together. Between them, they have an x-ray machine, a good microscope; and with these and a small laboratory, that all three have aided in furnishing, they are doing creditable work. The young man runs this part of the work because he has had more training than the other two. When he has too much work of this character, and at the same time more calls than he can attend, either one of the older men makes the calls for him. They do not duplicate their expenses in buying the same books. Two of them have been away for postgraduate work. They went at different times, and the two remaining at home cared for the work of the one absent and turned over to him the proceeds on his return. This bunch of men is exceptional in only one particular, as far as I am able to judge: they are kind in their judgments. Thus the little things that too often disturb the equanimity of doctors is not a problem with them. One or two of them attend every medical society within reach from their town. They make it a part of their business to report the proceedings to the one or two that remain at home.

I was interested to know the effect of such an arrangement as this on

the community in which they live. This is the result: increased respect for the medical profession. Many times the sick go to that town expecting to see only the physician most available; which one, does not seem to them especially important. Consultations are kept among themselves, and when an outside consultant is asked for, it is by the physician in charge of the case.

Contrast this with what obtains in too many of our towns and cities; and let us realize that just in so far as we organize, not only in societies and to medicine as a science, but as well in our every-day relationship to each other, will go farther and farther along the pathway that leads to the top of the mountain of scientific endeavor.

ORGANIZATION WORK IN ILLINOIS.*

J. N. McCORMACK, M.D.

Chairman of the Committee on Organization of the American Medical Association.
BOWLING GREEN, KY.

I have been delayed in making a report on conditions in Illinois, as they appeared during an extended itinerary there in the month of April last, partly because of absence from the country and the pressure of other duties, and still more on account of the complexity of these conditions, and the difficulty of suggesting such modifications in plans and methods as might lead to better results without injustice or offense to any interest or individual involved in the suggestions.

The plans for the itinerary were made with much care by the council and president of the Illinois State Medical Society. I spoke not less than twice a day—often three times, and once four times—during the entire month. Both the profession and public were advised as fully as was possible of the purposes of the meetings, and the attendance was fair at most and large at several places. A meeting for the profession in the afternoon and for the public in the evening was the usual order of procedure, and this arrangement was always attended by the best results. At several places the meeting for the profession was held in the hall after the one for the public, laymen being invited to remain always, and often the subjects for special inquiry and discussion were so numerous and interesting as to continue the meetings well into the middle of the night.

The councilor, or some one selected by him, went with me over each district, the county society officers were always on hand with conveyances to take us from and to the trains, and in every way my work was made as easy and pleasant as could be done by forethought and the utmost courtesy. As the meetings were so arranged as to make at least one of them accessible to the profession of every county, and, as full notice was given to the profession in advance, it was not the fault of the councilors if every physician in the state did not get at least to one meeting. We made a complete failure in the appointment at Rock Island. With about 250 physicians within a radius of a few miles, the councilor was unable to arouse any interest in the work and no meeting was held.

* From Journal American Medical Association, Jan. 12, 1907.

Naturally I came in contact with the best elements of the profession in Illinois, but as this is the case everywhere it could not be misleading. I got the impression constantly that its personnel would bear most favorable comparison with that of any other state I have visited. While the society meetings in most counties had been too infrequent for the best results, and while apathy, frictions and misunderstandings were still only too common, the uplift following the reorganization was very generally recognized and appreciated. While it can not yet be called an organized state in the modern sense, at least enough had been done in most counties to create a desire for better things, and my suggestion for weekly meetings, and systematic postgraduate instruction, as the fixed program for all county societies, was received with evident interest.

Although great inequality exists in different localities, and much remains to be done by the discussion and adoption of better business methods, the profession is better supported here than in most states, the average fees being about double what they are in Pennsylvania, for instance. The plan for joint meetings with the bar, teachers, ministerial, press and other lay associations, legislators, city and county officials and the public generally, in each county, for the discussion of public health problems, the suppression of quackery, the "patent-medicine" evil, and other matters of similar import, was new but met with almost universal favor. This was even more pronounced with the laity than the profession, as thoughtful members of the latter realized the labor and responsibility they would assume in leading such an important and far-reaching reform.

To an extent which I have not observed elsewhere a strong antagonism to the health and medical laws was found very general among lawyers. It developed in the discussions, as well as in private conversation, that these laws, especially the medical laws, and the ethics of our profession, probably not so rigid or so well enforced as theirs, but having the same common purposes in view, are often looked on as needless and as selfishly devised infringements on the rights of the citizen. In the frank discussions which followed my talks everywhere it was encouraging to find how anxious were the members of this great profession for practical information in regard to all these matters, and how readily misunderstandings were dispelled by candid face-to-face explanations. As this work goes on I am more and more convinced that in the past we have not been frank enough with the public about our affairs, and that the time has come for frequent, systematic, open meetings in every county where the profession is capable of leading such a movement, for the discussion of all questions of common interest to the profession and the people.

As a part of my official duty I undertook a systematic inquiry to ascertain why the medical laws of Illinois are not so administered as to eradicate or at least greatly to minimize quackery. Under the leadership of Rauch, from whom I received my first lessons in this work, this was the pioneer state in this field, at once an example and an inspiration to all the others. It is the home of *THE JOURNAL*, and in a sense the head-

quarters of the profession. The laws are strong and need to be perfected only in detail, the officials charged with their administration are most excellent men personally and professionally, as I know from a long and pleasant acquaintance with them, and yet ground has been steadily lost until, probably to an extent not true of any other state in the Union, it is a veritable paradise for quackery in every conceivable form.

As I came in close touch with the profession in every section of the state it was easy to gather information bearing directly on the reasons for this condition of affairs, and I became very much interested in it.

As the result of careful and protracted investigation I became convinced that the medical laws have been practically broken down and that the profession and people do not receive the protection from quackery to which they are entitled under the plain letter as well as the spirit of the laws, because the organized profession and the State Board of Health do not coöperate in securing and enforcing legislation. This work is sufficiently difficult anywhere with all of these agencies united, and it is foredoomed to failure where they are divided. The secretary of the State Board of Health wrote me that he is sure that he has back of him the support of the rank and file of the profession, but I found constant evidence that he is mistaken on this point, and this opinion was confirmed by those to whom he referred me for information. The more or less open antagonism between the leaders of the state society and the board has begotten a spirit of apathy and hopelessness about improving and enforcing both the medical and health laws almost coextensive with the state, and with such a state of affairs it ought not to be surprising that the united forces of quackery have had an easy time of it.

And yet I got the impression that these evils were traceable to faults in the system, and the misconceptions and misunderstandings inseparable therefrom, rather than to the mistakes or wrongdoing of any individual or faction. A State Board of Health and a State Board of Medical Examiners, whether joint or separate, should in fact be the executive committee and mouthpiece of the state societies of the several schools of practice in all matters pertaining to their duties, and they can not hope to attain to any great degree of usefulness until this is practically realized. This is often done by a tacit understanding between the appointing power and the profession, under which the societies suggest and practically nominate their representatives as vacancies occur, but more frequently under express provision of law. This takes the board out of politics, except of the right kind, makes each school of practice responsible for the selection and conduct of its representatives, and, probably more important than all, gives the board the support of the united profession of every school, not only in securing and enforcing legislation, but in so educating public sentiment as to make all of its work effective. This is the more important because there is the same need for the coördination of all of these forces in securing and enforcing health legislation for cities, towns and country districts.

With the exercise of a little tact, good judgment and personal tolerance on the part of all concerned I am almost certain that all of this could

be brought about without any change of personnel in the board. My idea would be for the presidents of the State Medical Society and the State Board of Health to get together and call a joint conference of the council and board for such a full, frank and dispassionate discussion as would enable them to wash off the slate and begin over. Existing conditions should be considered intolerable, and, in view of the importance of a union of all available forces in bringing about a better state of affairs, if there be any in either body not big enough and broad enough to lay aside petty personal prejudices and apparent interests and look to the future in this spirit, resignations should be requested and accepted without hesitation until this can be accomplished. The Board should be given representation in the House of Delegates of the State Society through its president and secretary for the encouragement of cordial relations, and the constitution and by-laws should be so amended.

The office of secretary and editor of the State Society should be combined in one person, and, in such a state as Illinois, he should devote his entire time to the duties of the office. It is important also that the closest relations should exist between this office and that of the State Board of Health. The *Illinois State Medical Journal* can, and should, give constant support and publicity to the work of the board, and the two interests be considered in every way inseparable. I am satisfied, too, that the councilor districts should be made smaller and that more young men should be put in this work. The older men were the most active, and their advice seemed invaluable in the meetings of the council, but I was constantly impressed with the injustice of asking these men, covered with years and honor, to do a kind of labor which was intended for young men who have their spurs to win.

It is made my duty when I visit a state to report conditions and to make suggestions, kindly, considerately, helpfully. I found a great profession in this state, to which anything is possible, favorably situated in many respects, and yet with so many of the best men working at cross purposes, or not working at all, as to retard the progress all are anxious to make. Nearly all of them are my personal friends, but so sensitive to criticism, as all doctors are, that my task has been beset with many difficulties, especially when I know that to give offense to any of them is likely to defeat the conciliation essential to the ends I have in view. But if what I advise can be taken by all concerned in the spirit in which it is written, and a real attempt made to put the suggestions into operation, it can not but mean the dawn of a new day for the power and influence of the profession of Illinois.

CORRESPONDENCE.

BILL FOR REGISTRATION OF NURSES.

Editor of the Illinois Medical Journal:—We wish to call your attention to the proposed bill for "State Registration of Nurses" to be introduced during this session of the Legislature, feeling sure that the members of the medical profession in Illinois will look favorably on a meas-

ure which aims to protect both the public and the nurse and to establish a uniform and reasonable standard of training for nurses. This bill does not aim to prevent any person caring for the sick, but to enable the public to distinguish between the woman who has fitted herself for her profession, by a course of two or three years in a hospital, passing an examination both practical and theoretical before offering her services to the public, and those women whose claim to be graduates can not be verified. The argument that this bill comes under the head of "Class Legislation" will be disproved on the reading.

There is no attempt to regulate prices nor to dictate as to the qualifications of the nurses employed, but to require a license to use the title "Registered Nurse," and thus give to the graduate of reputable training schools a title, the misuse of which carries with it a penalty. It is a measure which may be classed with the pure food legislation preventing misrepresentation and fraud. While it creates a Board, it is one which will not draw from the state treasury, but will be self-supporting. Inquiry will show that there are, at the present time, many women in the state calling themselves graduate nurses without the slightest claim to the title. This bill will not force these women from the field, but force them to nurse without misrepresentation.

Provision is made for the woman who has nursed for three years, although having no hospital training, provided she can pass an examination in practical nursing. Trusting the JOURNAL will help us in calling the attention of its readers to this measure and its value to them as well as to us,

Very truly yours,

CAROLINE D. SEIDENSTICKER,

Chairman Legislative Committee.

Chicago, Jan. 21, 1907.

COUNTY AND DISTRICT SOCIETIES

ADAMS COUNTY.

The regular meeting of the Adams County Medical Society was held Dec. 10, 1906, at the Elks Club, with President Grimes in the chair. Those present were: Drs. Ashton, Bierne, Blickhan, Christie, Ericson, Gilliland, Garner, Germann, Grimes, Hart, Hinton, Harrison, Knox, Kidd, Knapp, Koch, Liesen, Montgomery, Mercer, Nichols, Nickerson, Pfeiffer, Pitman, Rice, Robbins, Rosenthal, Shawgo, J. B., Shawgo, K., Schullian, Spence, Warley, Williams W. W., Williams, G. G., Wells, Wessels and Zimmerman. The application for membership of A. L. Stocks was received and ordered to take the usual course. At 1:30 the society was addressed by Miss Adda Eldridge of Oak Park, Ill., in the interest of the movement for the state registration of nurses. At the conclusion of her address, it was moved and carried that the society endorse the remarks of Miss Eldridge, and that our representative give proper consideration to the bill when brought before the legislature. The following scientific program was presented: Scarlet Fever, Histology and Etiology, by R. F. Hinton; Scarlet Fever, Diagnosis and Symptoms, by F. B. Knox; Scarlet Fever, Treatment, by J. H. Pitman.

GEORGE E. ROSENTHAL, *Secretary*.

BROWN COUNTY.

At the December meeting of the Brown County Medical Society, the following officers were elected: President, J. G. Asb of Hersman; vice-president, D. W. Owens of Hersman; secretary and treasurer, Frank E. McGann of Mt. Sterling; delegate for one year, Dr. Parker, Mt. Sterling; censor for three years, Dr. Alworth, Mt. Sterling.

FRANK E. MCGANN, *Secretary*.

CARROLL COUNTY.

The Carroll County Medical Society held its regular quarterly meeting Dec. 11, 1906 in the Supervisors' Hall, at Mt. Carroll. The meeting was called to order at 11 a. m. by President Johnson. There were present Dr. J. F. Percy of Galesburg, President of the State Medical Society, and Drs. Camp, Clay, Colehour, Gray of Savanna, Harrison, Hunter, Johnson, McPherson of Hazelhurst, Mershon, Metcalf, Overholser, Packard, Porter, Powers, Rice, Rinedollar and Schreiter.

The annual election of officers was held, with result as follows: J. E. Porter of Shannon, president; A. D. Hunter of Savanna, vice-president, and H. S. Metcalf of Mt. Carroll, secretary-treasurer.

Dr. Colehour gave an interesting report of a visit to the Mayos in Rochester, Minn. The rest of the forenoon was given to Dr. Percy, who talked interestingly on "General Conditions in Illinois Along Medical Lines which Should Originate with the County Society." In the afternoon Dr. Percy gave an address on the "Borderland of Insanity." Dr. Percy's visit was greatly enjoyed by every one present, and he may have the satisfaction of knowing that he has greatly strengthened in Carroll County the interest in the State Society.

H. S. METCALF, *Secretary*.

CHAMPAIGN COUNTY.

The regular monthly meeting of the Champaign County Medical Society was held in the parlors of the Hotel Beardsley, Champaign, Ill., Thursday, Dec. 13, 1906, at 2:30 p. m., with thirty members and four visitors present. Dr. T. J. McKinney of Gifford gave a very interesting and comprehensive talk on Lobar

Pneumonia. He dwelt particularly upon etiology and pathology in reference to complication. Then followed a good discussion. Dr. J. T. Purcell of St. Joseph read a very interesting paper entitled a Retrospective View of Medicine, in which he gave some of the advances in the practice and outlined a field for future work in preventive medicine. The outgoing president, C. M. Craig, delivered the president's address on the Progress of the Profession in Organization. After the program, a business session was held, and among other things, the secretary made the following report: Number of meetings held, 7; average attendance, 26. Number of papers presented, 14; number taking part in the discussion, 54; membership, active members, Jan. 1, 1906, 54; number received by application, 23; number reinstated, 3; number transferred, 1; number died, 2; number dropped, 1; active membership, 76; honorary members, 2; life members not affiliated with State Society, 8. This being the annual meeting, the following officers were elected: President, J. C. Dodds, Champaign; vice-president, J. S. Mason, Urbana; secretary-treasurer, C. D. Gulick, Urbana, censors, F. H. Powers, Champaign; C. B. Johnson, Champaign, and John Marten, Tolono. Members of the State Medical Defense Committee, H. E. Cushing, Champaign. Delegate to State Society, C. M. Craig, Champaign; alternate, A. S. Wall, Champaign. C. D. GULICK, *Secretary*.

CHRISTIAN COUNTY.

The Christian County Medical Society met at the City Hall in Taylorville, January 17, the meeting being called to order at 2:19 p. m. by Dr. M. W. Staples, president. We had with us Drs. Kreider and Prince of Springfield. As they wished to return on an early train, the business part of the meeting was postponed until later and Dr. Prince gave us a very interesting and profitable talk on sinusitis, pointing out the various sinuses of the face and base of the skull, and demonstrated his remarks by reference to a prepared skull which he brought with him. He also exhibited the various instruments he uses in operating on these cavities and emphasized the diagnostic points in their detection.

Dr. Kreider took the second place on the program and discussed dermoid cysts and sinuses of the rectal and anal region. He spoke particularly of dermoid cysts and their kindred malformations as regards their being the origin or source of many sinuses. After pointing out some of the various anomalies and obscurities, he dwelt upon the diagnosis and advised radical treatment, mostly surgical, of all cases. He made comparisons of these fistulæ resulting from dermoid cysts with anal fistulæ.

Dr. J. J. Connor of Pana presented a case for diagnosis. The case was that of an infant that apparently had an attack of erysipelas followed by some other exanthem resembling German measles. A very interesting case and very puzzling, so much so that no diagnosis was made.

Dr. J. N. Nelms very accurately outlined the benefits and workings of the medical defense department of the State Medical Society, and added other interesting details and expedients relating thereto that would have been very profitable for each physician in our county to have heard.

On account of the lateness of the hour Dr. Staples omitted his paper on Medical Organization and proceeded with the business part of the meeting. The minutes were read and approved. The report of the secretary-treasurer showed the society in a healthy condition numerically and financially. The finance committee reported the treasurer's account correct. The following applicants were elected to membership: Drs. Jacob Huber of Pana, F. A. Lawler, H. M. Woolf and E. H. Douglas of Taylorville, J. V. Rivard of Assumption, and B. P. Windsor of Mt. Auburn. One application was rejected.

The following officers were elected: President, Dr. J. J. Connor, Pana; first vice-president, Dr. J. H. Dickerson, Taylorville; second vice-president, Dr. Dwight F. Morton, Taylorville; secretary-treasurer, Dr. D. D. Barr, Taylorville; censors, Drs. Douglas and Nelms, Taylorville, and Bridges of Stonington.

Meeting adjourned to meet again on the third Thursday of July next.

D. D. BARR, *Secretary*.

COOK COUNTY.

CHICAGO MEDICAL SOCIETY.

A regular meeting was held Dec. 5, 1906, with the president, Dr. George W. Webster, in the chair. Dr. William B. Coley of New York City read a paper entitled "Diagnosis, Prognosis and Treatment of Sarcoma of the Long Bones."

DISCUSSION.

Dr. William Allen Pusey was asked to open the discussion. He said: Mr. President—With all due respect to those who suggested that my name be put on the program to open the discussion on this paper, I feel that I am not competent to do so, as my experience unfortunately in the treatment of sarcoma of the long bones has been so limited that I can contribute little or nothing to this discussion. I have for a long time heard of Dr. Coley's work with the mixed toxins in cases of sarcoma of the long bones, and have followed it closely. I have systematically used this treatment in sarcoma, but I regret to say without definite results. I am convinced, however, from his reports and the reports of others, that radical cures have resulted from that treatment, and I feel that it should be tried as a routine treatment in sarcoma of the long bones.

Dr. Arthur Dean Bevan:—I have been personally very much interested in the presentation of this subject by Dr. Coley, and for a long time have been interested in the broader subject of the value of the mixed toxin treatment in sarcoma. I was very skeptical as to its value, and the first dozen or more cases in which I employed the mixed toxins made me still more doubtful as to its value and rather confirmed me in the opinion that there was little of value in this method of treatment. However, spasmodically, from time to time, in our clinic, we found it necessary, in cases where nothing else could be done, particularly the inoperable cases, to suggest some line of treatment, and among other things in the inoperable cases we have used the x-ray and the Coley mixed toxins. Within the last two years we have had three cases in which there has been absolute and definite improvement after the use of the toxins, so definite that there can be no doubt but that we must ascribe that improvement to this treatment.

One of the cases was that of a patient who had been operated on by Dr. Will Mayo of Rochester, Minn., an exploratory laparotomy having been made for an enormous malignant growth. A diagnosis of malignancy was made, but nothing was attempted in the way of treatment. Later the man developed a mass near the popliteal space on one side, and one mass over the crest of the ilium. The one over the crest of the ilium was small, and we removed it and found it was sarcoma. It was an inoperable case. We suggested, however, to the Doctor, who had the patient in charge, that he use the mixed toxins. This was done. The enormous swelling diminished very materially; the man, who was very uncomfortable from the great tension and pressure produced by this growth, became so comfortable that he considered himself well. The improvement was very marked; it was not, however, permanent, and later he died of general malignant disease.

About sixteen months ago I operated on an abdominal case in which there was a large growth about the size of my fist. The diagnosis before operation was difficult, and I was rather inclined to think it might be a growth in connection with the intestines, although there were no symptoms of obstruction. However, at the time of the operation a tumor was found, which proved to be a sarcoma of the omentum, which had involved at least half a dozen coils of the intestine, and the involvement of the intestine was so great as to make anything like a radical operation out of the question. It would have necessitated the removal of one-half of the small intestine to have removed the growth in its entirety. I therefore satisfied myself by removing the mass in the omentum, and left distinct and gross masses of the neoplasm in contact with the intestines. I told his people that he would undoubtedly die in a short time. I felt, however, that we should try those agents which have been reported as being of

value in these cases, and we gave him a thorough trial of the Coley mixed toxins. The patient has been well since that time. There is now absolutely no evidence of neoplasm. It is now sixteen months since the removal of the mass.

A third case is one in which there has been a distinct relationship between the giving of the toxins and the diminution in the growth. The patient has been in our hands but a short time. He is an elderly gentleman, with a large swelling over the sacro-iliac joint. The diagnosis was between a possible tuberculosis of the joint or a neoplasm. We made an exploratory operation. I came down upon a large neoplasm and removed a piece about the size of a large English walnut for microscopical examination. It was very vascular, and we had considerable trouble in checking the hemorrhage after this exploratory operation by packing with iodoform gauze. It bled a great deal, and left an ugly wound, say four inches in length, which was slow in healing. I gave an unfavorable prognosis, but stated to the family physician that it would be well to use the Coley mixed toxins and *x*-ray treatment. He received two *x*-ray treatments, not enough to make any impression upon the mass. The family physician has continued the toxin treatment for a number of weeks; I have seen him but once since that time, but there has been a material diminution in the size of the growth, so that now it is not one-third the size it was at the time of the exploratory operation. The patient, who had intense pain at the time of the exploratory operation, and was confined to his bed, is now able to walk a considerable distance without pain. There has been very marked and distinct improvement.

I am fully impressed with the fact that in this means of treatment we have an agent of distinct value. I am thoroughly impressed with the proposition that where a radical operation can be done, with the hope that the entire lesion can be removed, where the process has not as yet invaded the system, it should be done. I am much impressed with the proposition Dr. Coley presents to-night, in view of the enormous mortality which has occurred after amputations for sarcoma. That has been the experience in every large clinic, and I believe that we should combine with our radical operations the use of the mixed toxins and obtain whatever value there is before and after the radical operation. We know that experiments are being conducted to-day in mouse sarcoma and mouse carcinoma and dog sarcoma, that are very promising of future results, and the evidence that is gradually accumulating that certain conditions favor the spontaneous cure and disappearance of these lesions impresses me greatly with the fact that we can hope to unravel this problem and some day find what those conditions are that favor the spontaneous disappearance of these neoplasms, and I think we may hope that the time is not far off when we may be able to control these conditions and artificially produce them in individuals and obtain a cure, something which we do now in certainly a very, very small proportion of our sarcoma cases by operative treatment.

Just one word in regard to the use of the *x*-ray in connection with sarcoma of the long bones. I have one case in which, after the use of the *x*-ray, a sarcoma in a long bone was cured. In this case I advised amputation. The parents of the child refused amputation. An operation was made, however, and the sarcoma simply chiseled or scooped out, most of the work being done with a curette. The child left the hospital before the wound had completely healed; went to an eastern state for two weeks, and returned to the hospital with a continuation of the growth because the operation had been so superficial, so to speak; it was evident that the entire lesion had not been removed. The parents still refused amputation, and we therefore used the *x*-ray upon the open surface. Under the *x*-ray, rather vigorously employed, the mass diminished in size, the wound cicatrized and the girl recovered. I was able to trace the case for a period of at least three years after this incident, and the patient was well at that time.

Dr. John B. Murphy:—I have been very much instructed by Dr. Coley's paper, and in it I see a ray of hope where formerly it was very dark and gloomy. I have had no experience with Dr. Coley's treatment in sarcoma of the long bones,

and from the results he has obtained, it seems to me that I have not availed myself of all of the opportunities that were presented in these cases. His report is much more encouraging than I had expected it would be, and it must stimulate us in that line of medication.

There are some relationships which are very striking in the beginning between sarcoma and tuberculosis which I was much pleased to have Dr. Coley bring out. First, the relation of trauma to the initiation or beginning of the disease; the similarity of the etiologic trauma of sarcoma to the trauma that focalizes tuberculosis. In the trauma which produces sarcoma it is always single and of a mild type, and never an injury of a severe type; that is, in trauma to a bone which is sufficient to produce fracture a sarcoma practically never follows. In a trauma of the bone that is insufficient to produce a fracture we also never have a tuberculosis following, differing in that particular from the other types of infection, namely, that staphylococcus or streptococcus infection, which can be readily experimentally produced in its association with and at the point of fractures, although it does not commonly occur in clinical experience. The period of incubation is a longer one on an average in sarcoma after a trauma than it is in tuberculosis, the latter being a typical eruptive disease, producing its manifestations within a definite cycle of three to six weeks after trauma, varying with age and individual resistance within that range.

There is another relationship in connection with metastasis in which they differ so widely that there is no similarity in the secondary manifestations of sarcoma and those of tuberculosis. In the metastatic manifestations of sarcoma we have always the active cell of the original type, no matter where the metastasis; while in the secondary manifestations of tuberculosis we have the active cells, those of the tissue in the metastatic focus, in which the metastases occur, taking an active part, with no reproduction of the cells from where the original tuberculosis took place.

Then comes another relationship between the two lesions. Tuberculosis has a tendency to cure by fibrous encapsulation in every position of the body, while only rarely we see a case of sarcoma that has been diagnosed as such by microscopical examination in the hands of competent men in which the disease entirely disappears by absorption.

The disappearance of the lesions, as mentioned by Dr. Bevan, must give us hope that these cases will eventually be cured by producing some condition in the blood, if not as Dr. Coley has outlined, certainly an immunity of that character, and we must congratulate Dr. Coley on his perseverance in this line, and the strong fight he has made to establish a practice in the control of the growth of these neoplasms through systematic medication, and I am pleased that he has come here, because it will stimulate us to further action in this line of investigation as well as in this line of treatment.

Dr. A. J. Ochsner:—We can not listen to a paper like the one we have heard this evening without being stimulated to apply in our practice any method which has in careful and competent hands shown the results that have been so favorable in such hopeless conditions. There are many conditions in which we have a reasonable prospect of good results with methods that have long been established; but in sarcoma, so far, every surgeon looks upon his permanent cures as unexpected, almost as accidental results. The fact that sarcoma gives a life history of a growing tumor would indicate that sooner or later some one will supply the means of stopping this growth. Some one in some way will supply a substance in the presence of which sarcoma can not grow. Whenever we have a cure in a case of sarcoma, whether we attribute it to the x-ray or to the mixed toxins, or to any one of a large number of other substances that have been used, it always brings up this hope that sooner or later some one in some way will supply this substance.

Now, when we look upon the destruction of weeds, so to speak, anywhere else, we scarcely hope to succeed in freeing the land infested by destroying the mother plant. We have to keep on weeding if we wish to keep the field free,

so as not to be annoyed later by the offspring from the original plant, and it has seemed to me that in Coley's mixed toxins and in the *x*-ray we have a means of possibly destroying these scattered plants that have come from the original growth.

I have been very thoroughly impressed with this fact in quite a number of cases of carcinoma, particularly in which that very thing has happened with the use of the *x*-ray, in which without these additional means there was absolutely no possibility of recovery.

After these secondary growths had started, before these methods of treatment were introduced, we knew they would continue until the end, which would come in a very short time. This photograph of the shoulder reminds me of a case from which I had a report to-day, a case of sarcoma of the lower portion of the femur. It was extremely rapid in its growth. Four weeks after it was first noticed it had attained considerable growth. I advised a hip joint amputation, and did not see the patient again for two weeks, when the growth had almost doubled in size. Then I referred the patient to an *x*-ray specialist, who applied *x*-ray treatment. It is now five years or more since that treatment was instituted, and the patient walks about on both legs and is reported as being well. I have had a number of similar cases. As regards Dr. Coley's mixed toxins, I would say that I have used them in the manner just described by Dr. Bevan, and in none of my cases have I obtained any permanently favorable results. I believe, however, that from now on I shall use them in every single case after operating upon a patient suffering from sarcoma, in order to try to get the effect Dr. Coley speaks of upon the slight metastases of sarcoma which are not resistant enough to withstand these toxins. Personally, I am exceedingly thankful for having heard this admirable paper.

Dr. William E. Morgan:—There is one point in regard to sarcoma of long bones that has been scarcely touched upon, yet I think it is a point in which our future hope lies in either curing or allowing the patient to die. I refer to cases of so-called sarcoma. I see present one or two expert pathologists, and I would like to ask those gentlemen if they will take a piece of tissue from a case of what appears to be to the naked eye and from the clinical history, sarcoma, and prepare a slide from it, and make a positive statement from that slide, of the presence of sarcoma; I mean an absolutely positive statement to the effect that the case is one of true sarcoma? I have not had a great many cases of sarcoma of the long bones; I have not had a considerable number of cases of sarcoma of other bones, and have always noticed, when I have taken specimens to the pathologist and have had him make as careful an examination of the specimen as possible, that he would say to me: "It has all the appearances of a sarcoma, and I believe that is what it is." But he will not make as positive a statement as he would in a case of carcinoma.

I want to say that the only three cases of supposed sarcoma of the long bones, excepting the myelogenous form, in which I have had the knowledge of a cure, were cases that refused amputation. They were treated by other methods, by the Coley mixed toxins, the *x*-ray treatment, or have drifted off into the hands of quacks. These are the only three to my knowledge in my own experience that have made recoveries. One of them was a case of the late Dr. Fenger, which was pronounced by him macroscopically as undoubtedly one of osteosarcoma of the tibia. He made an exploratory incision, removed a piece of the tissue, which was subjected to microscopical examination, not only by himself, but by other pathologists in the city. Amputation was advised. In this connection let me remark that the only way hemorrhage could be stopped in that case after an exploratory incision was with the actual cautery. Amputation was refused, and the patient drifted to Dowie, and for five years this case was held up by Dowie as one of his star cures. This same patient, after leaving Dr. Fenger, went to Dr. Senn, who likewise advised amputation. She came to the Mercy Hospital in 1894, and two years ago was still living and apparently as well as anybody.

The other two cases were similar in character. One was pronounced by Dr.

Fenger, who made a microscopical examination in that case, to be sarcoma. A spontaneous pathological fracture of the femur occurred in a young man, 20 years of age, who had a large tumor of the femur, and the surgeon, who was a good one, although living in a small town, removed a piece of the tumor for microscopical examination, and Dr. Fenger reported on it as undoubtedly osteosarcoma, and advised practically nothing. That was twenty years ago. Four years ago I was in the town where this case occurred, and in conversation with the surgeon, who is now an old man, but still practicing surgery, I happened to refer to that case, and asked him what became of the boy. He said he kept extension on the young fellow, thus relieving the pain, and by and by healing occurred and he became perfectly well. He was then driving an express wagon.

I do not hesitate to say from this that I do not know what sarcoma is, either macroscopically or microscopically, and when a case gets well under any course of treatment, I do not know whether it was the treatment that cured him or whether he recovered spontaneously. In every case I have had under my own care, and cared for it from the beginning to the end, the end was death.

Dr. Coley (closing the discussion):—I wish to thank the members who have taken part in the discussion for the very considerate way they have treated me and for the flattering remarks they have made about my paper. However, after the remarks of the last speaker, I apprehend that you want nothing further said about my method of treatment. But if any of you should care to use the treatment, it is very important that you should know how to use it, because I think the reason why so many surgeons have had failures is due to the fact that they have not used the method in the right way.

I had one patient who came to me from a town in Connecticut. A physician there wrote me about the method he had seen used at the Loomis Laboratory. This was a case of inoperable sarcoma of the parotid glands of the neck. The physician had used the mixed toxin treatment for three or four weeks, and not finding the results as good as he had expected, pronounced the method a failure. He sent the patient to New York. I used the toxins in very large doses, much larger than this physician had been using, and in this connection I might say the difference between success and failure lies largely in the question of dosage. I have never seen any harm from giving these patients large doses of the toxins, and if after using large doses the temperature of the patient should reach 103 to 105, or he should have chills, one should not be alarmed. One need not be afraid of these things, because he is more likely to get results. This patient under large doses of the toxins got entirely well.

I recall another case which was sent to me last June, by a specialist from Boston. The patient had apparently a large sarcoma of the tonsil which blocked up most of the pharynx; there was also a mass on the neck the size of an egg. The patient was becoming emaciated very rapidly, and there was every appearance of a malignant disease. The case seemed hopeless. I did not think the patient had any chance of getting well after the use of the toxins. I told the surgeon who had charge of this case not to be afraid to push the toxins. We began with half a minim; every other dose was injected into the tumor, and the other dose into his pectoral region. Many of my successful results have been obtained not by injecting the toxins into the tumor, but at a point remote from the tumor. One-third of a minim was injected into the tumor of the neck, but we found he could stand larger doses injected into his pectoral region, and so we injected into his pectoral region as many as thirty drops at one time, and twelve or fourteen drops in the neck tumors. Under these doses the tumors became smaller and began to slough. In brief, the general condition of the patient at the end of two months' treatment was such that he was sent home to New England, not to recuperate, but, as I thought, to die. Improvement continued to such an extent that the physician wrote me a few weeks ago to the effect that the man was well; that he had no tumor now either in the neck or tonsil. I mention this case to show that the difference between success and failure lies largely in knowing how to use this method of treatment. Some-

times the toxins are not as good as they are at other times. To get the best results, we must have toxins that are virulent, and I am more convinced in recent years, particularly in the last year, from our experiments carried on at the Loomis Laboratory, that the bacillus prodigiosus plays a far greater part in the cure of these cases than I believed it did in earlier days.

It is hardly necessary for me to emphasize the point that I do not use the toxins as a substitute for operation. In all of my papers I have recommended the use of the mixed toxins in inoperable cases. We can use them before operation in cases where an operation means a great sacrifice of time. I believe we can use the toxins to great advantage as a prophylactic after all primary operations, to guard against future recurrence.

Dr. Channing W. Barrett read a paper entitled "Considerations of Retroversion-Flexions of the Uterus in Their Relation to Pregnancy."

DISCUSSION.

Dr. Albert Goldspohn:—What the essayist has said in regard to the abortive effect of retrodisplacement of the uterus is very true. Anyone who has had any considerable experience with women, either in gynecological or obstetrical cases, can hardly escape meeting such cases rather frequently. The so-called habit of the uterus to abort, as understood by the laity, to us physicians is anatomically explained in this disorder. Retroversion, if it is at all marked, is an evil in itself, and does not simply become one when the uterus becomes adherent. Intra-abdominal pressure holds the free unattached uterus just as continuously in retroversion as if it were bound down by adhesions. It is a very curious vagary of imagination that is entertained by some respectable gynecologists, that a uterus that is not actually bound down by organic adhesions is not pathological. The embarrassment to the venous return current or circulation is just as continuous as it is in the actually adherent uterus, and the effect on the endometrium in producing disease of the lining of the uterus is very much as is the appearance of a varicose ulcer on a varicose leg. For the same reasons, then, that pregnancy should not find a fruitful lodgment in such an endometrium is very evident. We can not expect anything different, and the instances that I alone have known in years gone by of women who have aborted and aborted and aborted until their lives were practically miserable, have been checked in this misery by simply righting the movable retroverted uterus and retaining it in position either by a pessary or by surgical means. The number of cases has been, I should say, at least twenty-five. I say movable, not adherent, uteri. This fact in itself is an argument against the opinion that the uterus must first become grown fast before it is a pathological thing to be retroverted.

As to the method of treatment that Dr. Barrett suggests, I always feel gratified when I see an exposition of principles in treatment that I set forth and which created considerable bad feeling six or seven years ago in condemning fixation operation, in calling attention to the round ligaments as the only correct anatomical things that are available for this purpose. Whether the round ligaments normally have the function of holding the uterus in normal anteversion or not is a question. If they have no use beyond that, we can give them a use by employing them for the purpose of holding the uterus in normal position. We can give them a different course, and it is gratifying to me to notice that in so few years men like Howard Kelly have been distanced, as have been other advocates of fixation operations, and gentlemen of the younger generation, such as we have had this evening, present correct principles, notwithstanding the results Kelly and others may have had.

As to the frequency of abdominal section being required to relieve an incarcerated pregnant uterus, I think that will not occur very frequently. Actual adhesions of the uterus are not so frequent as they would seem. Adhesions of the appendages are very much more frequent, and if a pelvic peritonitis has existed, which has ended in adhesions of appendages and uterus, usually the health of the tubes is so far compromised that pregnancy does not result, and a uterus that is simply incarcerated without pregnancy can generally be gotten

out of the pelvis with or without narcosis, preferably without general narcosis, and the knee-chest posture. But if that does not succeed, an abortion, I emphatically declare, is out of order; then abdominal section is called for, and if the uterus does abort after abdominal section, it aborts under conditions where the woman will be saved the dangers to which she would be exposed if the uterus had aborted in its false position.

The only proper question in the matter of surgical cure of displacement of the uterus at this time is not fixation or suspension of any sort whatsoever, but how to use the round ligaments; not to depend upon their insignificant external extremities to do anything, but make some use of them which enables their thick uterine origin to do the holding, and the operation that Dr. Barrett has suggested, as also many other types of transplantation of round ligaments into the abdominal wall, which they all amount to, are anatomically correct.

Dr. A. Belcham Keyes:—This subject is one of extreme interest to us, and considering the completeness of Dr. Barrett's paper, there is very little to add. I would desire, however, to ask him two questions: First—At what month of pregnancy did the symptoms begin in the case reported? Second—How long was the urethra? It is very essential for us to record clinically a clear and correct statement of those two important points. Frequently we do not sufficiently consider the lengthening of the urethra as a cause of our failure to obtain urine, and one may often be led to believe that the catheter has been introduced sufficiently far and that the bladder is empty when, indeed, it has not yet been reached.

Dr. Victor J. Baccus:—I wish to call attention to the experiments of H. Fraenkel, published in the *Archiv für Gynäkologie* in 1903. In cases of pregnant retroflexed uteri, as described this evening, that demand laparotomy for their correction, he calls attention to the reasons why the corpus luteum of pregnancy should by all means be preserved. He made four series of experiments on rabbits, and concludes by stating: that if the corpus luteum of pregnancy is removed the ovum will atrophy; that the internal secretion of the corpus luteum is necessary for the insertion of the ovum and for the development of the ovum, and the corpus luteum is supposed to exert this influence up to the fourth month of pregnancy. The practical deduction from Fraenkel's experiments is that in order to avoid a miscarriage in this class of cases demanding surgical interference, if ovarian lesions should exist, they should be corrected without injuring or removing the corpus luteum of pregnancy.

Dr. Charles S. Bacon:—I feel like taking a moment of time to disagree in some respects with the essayist on the subject of treatment. This disagreement would be in the line of requiring a more exact statement of the indications for laparotomy. As a matter of fact, the most important of the serious symptoms is trouble with the urinary apparatus. The bladder disturbance; difficulty in urination; the subsequent infection of the bladder and urinary tract, which leads very frequently to gangrene of these important organs, according to the statistics given by the essayist, are the chief causes—together with the sepsis that arises from that—of death in these cases. These causes lead also to the imprisonment of the uterus, peritoneal adhesions of the bladder to the intestine separating the pelvic from the abdominal cavity, and making it difficult to replace the uterus. It is difficult to replace the uterus even without this pathologic partition on account of incarceration behind the promontory; but that is not a difficulty that can not be overcome by manual reposition. So it is difficult to say when a laparotomy shall be undertaken. If we have a severe infection of the bladder, and very frequently infection of the peritoneum accompanying it, and often gangrene, to a greater or less extent, we have a condition of affairs that makes a laparotomy an extremely serious operation; and I believe it is the opinion of most of the modern writers that in these cases there is a safer operation for emptying the uterus, when it must be emptied. I do not refer to puncture of the uterus, but to colpohysterectomy, or vaginal Cesarean section; incision of the posterior vaginal wall, and emptying the uterus in that way. It may be necessary to fol-

low this sometimes by the removal of the uterus, but not generally. The conditions are too serious to justify a laparotomy, and if it should be done, the condition is so serious that an operation for displacement would not be attempted at that time. Milder cases in which there is not this serious bladder infection, can almost always be treated by reposition, if carried out properly, thoroughly and systematically. There must be emptying of the bladder, and that is a difficult matter; and there must be a considerable period of rest to the patient in the horizontal position, with possible tamponade, and when the great edema has decreased, which is a great obstacle at the beginning of the reposition, reposition will follow. So the impression that may have been left by the essayist that a laparotomy is so often indicated in these cases I think is a mistake.

Dr. Barrett (closing the discussion):—I wish to thank the gentlemen who have discussed my paper. As to Dr. Goldspohn's advocacy of some of the points made, I wish to say that I thoroughly agree with all that he has said. I agree with him when he says that it will not often be necessary to open the abdomen for an incarcerated uterus. But it does sometimes happen, no matter how grave the symptoms. Sometimes the graver the symptoms, the more necessary it is to open the abdomen. There are many cases of beginning incarceration in which the uterus can be replaced according to the method spoken of, and according to the methods discussed by Dr. Bacon. I would like to say this, however, that in dealing with an incarcerated uterus we are dealing with the lives of two persons instead of one, as Dr. Bacon seems to imply. He suggests vaginal Cesarean section in these cases of incarceration of the uterus. Yes, if an abortion is inevitable, empty the uterus by replacing it, and emptying it by the usual methods if it can be done, or by doing a vaginal Cesarean section; that is, slitting up the cervix a little, if it is an inevitable abortion, and if the child is alive there is no reason why we should take the life of that child in order not to do an operation which furnishes a chance for both mother and child to live. He has said that it would be a serious thing to open the abdomen in cases in which there is some peritonitis, probably local, and some gangrene. I would suggest possibly that if we get a local peritonitis and some gangrene, we are doing a much safer procedure to open the abdomen and deal with those conditions than we would be to turn the uterus under these conditions, do a vaginal Cesarean section, or induce an abortion. If a woman is born to abort, if we do this operation she aborts under more favorable conditions. We all know that obstetrics is essentially a conservative specialty, and sometimes it seems to be a little over-conservative, and that over-conservatism has been helped out in years gone by by a little less conservative gynecology, and that is one of the conditions in which this over-conservatism will benefit obstetrics very much. Dr. Keyes asked the question as to when the first symptoms started. They began, as is quite frequently the case, at about three and a half months. The woman supposed that she was three and a half months advanced in pregnancy when these symptoms began. As to the length of the urethral canal, I can not give Dr. Keyes the exact measurements, but it was materially lengthened. We introduced a Kelly catheter up to quite a long distance, so that we thought we ought to be able to enter the bladder long before we got the instrument into it. It was much lengthened, but how much I can not say.

Meeting of December 12, 1906.

A regular meeting was held Dec. 12, 1906, with the president, Dr. George W. Webster, in the chair.

The subject for the evening was a symposium on Exophthalmic Goiter. Papers were read as follows: "Clinical Course and Diagnosis, and Report of a Case," by Dr. Frank Billings; "Pathology," by Dr. D. D. Lewis; "Cardiac Symptoms," by Dr. R. B. Preble; "Neurologic Complications," by Dr. L. Harrison Mettler; "Ophthalmologic Aspects," by Dr. Casey A. Wood; "Medical Treatment," by Dr. William E. Quine; "Surgical Treatment," by Dr. Arthur Dean Bevan.

The discussion was opened by Dr. J. B. Herrick, and continued by Drs. E. F.

Wells, Sydney Kuh, A. J. Ochsner, B. W. Sippy, D'Orsay Hecht, G. W. Hall, and closed by Drs. Billings, Preble, Mettler and Bevan.

DISCUSSION ON THE SYMPOSIUM ON EXOPHTHALMIC GOITER.

Dr. James B. Herrick:—The name exophthalmic goiter is somewhat unfortunately chosen for, as Dr. Billings said, the most common and constant features of the disease are tachycardia and tremor rather than the exophthalmos and the goiter. I disagree with Dr. Wood that exophthalmos is one of the earliest and commonest of the symptoms. It certainly is not as common a symptom is either tachycardia or tremor. Probably in the cases Dr. Wood sees the ophthalmic symptoms are pronounced. As mentioned by Drs. Bevan and Billings, many of the cases show a distinct loss in weight, as in the case mentioned by Dr. Bevan and in another which I saw a few days ago, the patient having lost 60 pounds of 162 within two or three months. In nearly every case there is a slight loss of weight. As to temperature, if the temperature be taken carefully at four-hour intervals in an acute stage of exophthalmic goiter, there is to be found almost without exception a slight elevation of temperature at some time in the course of the 24 hours.

Some patients have an annoying, hacking, so-called nervous cough; the pulse is rapid and sweating is common. When a patient comes to us with such a history as that, and when we find a few scattered râles in the chest, and find that there has been a loss in weight, it is a very easy matter to conclude that the patient has pulmonary tuberculosis. That mistake is easy to make. I was glad to hear Dr. Wood's explanation of the discrepancies in the statistics as to von Graefe's sign. I have heard some physicians claim that they find it in at least 90 per cent. of their cases, while others do not find it in more than 20 per cent. The explanation is probably to be found in the technic of testing for this sign. Personally, I do not find it in over 50 per cent. of my cases. Itching of the skin is sometimes intense, and the changes in the skin, resembling myxedema or scleroderma, are at times particularly striking. I have seen this thickening of the skin especially marked on the abdomen.

Dr. Preble referred to the fact that in serious cases cardiac incompetency was likely to develop, and that edema may be looked on as a warning of the approach of this condition. The most severe and pronounced case of edema I ever saw was in a woman who had a typical exophthalmic goiter and an incompetent heart.

As to what should be called complications and what merely symptoms of disease, I scarcely know what to say. It seems to me that the earnestness of Dr. Mettler's argument was scarcely warranted by the views generally held by physicians. I believe, in other words, that most physicians would agree with him that we are not warranted in making a diagnosis of exophthalmic goiter without some one or two of the so-called cardinal symptoms. That there are mild cases or so-called larval cases, is unquestionably true; but without at least one of the cardinal symptoms of the disease one would hesitate to call it exophthalmic goiter. It will be impossible to draw hard and fast lines as to diagnosis until we have a definite etiologic or pathologic basis on which to found a diagnosis.

I was glad to hear Dr. Quine protest against the treatment by thyroid extract. Very few lecturers or text-books advocate it, yet it is frequently given and almost without exception to the harm of the patient. The mainstay in treatment is rest. It is far superior to all drugs, and it should be insisted on. Dr. Quine mentioned the three drugs that I employ oftener than others—strophanthus, codein and bromids. These, with eliminants and rest, come as near to the stock treatment that I have for exophthalmic goiter as anything.

I would like to ask Dr. Bevan as to his 15 cases of recovery, whether he means recovery with complete absence of symptoms? Many cases of so-called recovery from medicinal treatment are only recoveries so far as acuteness or gravity of the symptoms is concerned; but on looking carefully, we still find some tremor, tachycardia or exophthalmos. Instead of being a complete and permanent cure, we must say that the disease is in a dormant state. I wish Dr. Bevan could tell us whether his 15 recoveries are recoveries in the strict sense, or merely instances of marked improvement.

Dr. E. F. Wells:—In the very able presentation of the cardio-vascular symptoms in exophthalmic goiter made by Dr. Preble, one remarkable feature was left unmentioned, namely, the fact that in the early stages of other and milder cases of exophthalmic goiter, the pulsations are very much stronger above the level of the heart than below. This is a symptom of some practical importance in the early diagnosis of the disease. Any other feature has to do with the pulse. The pulse is accurately described as having the characteristics of that pulse of aortic regurgitation. This is true of only a small proportion of the cases. Every characteristic of the pulse, except the normal, may be found in exophthalmic goiter, and in a large proportion of the milder cases the pulse may be described as infantile in character. In the most severe cases I have seen the pulse has been practically the same as in tachycardia. I have had the opportunity of taking tracings in a very considerable number of cases, so that I am quite sure that these are the ordinary conditions found.

In discussing the neurologic features of the disease, Dr. Mettler mentioned many things which are bound to be present. One notable symptom is that of the moral obliquity present in some of the patients. The patient's moral sense is not well rounded out, especially in regard to veracity.

As to the treatment of this affection, the three drugs of real usefulness have been mentioned. I have for many years favored the use of codein, and unless my observations are woefully at fault, I am sure that we have in codein the most useful remedy in the management of this disease. It may be given for long periods of time in doses of from $\frac{1}{4}$ to $\frac{1}{2}$ grain, three or four times a day. I have not seen it harm any patient, and it is beneficial in a large proportion of cases. There are some extreme cases, however, in which it and every other method of treatment fails. As to surgery, some of the cases that promise to be severe should be watched carefully and be turned over to the surgeon for extirpation of the gland early, not waiting until severe symptoms have set in. The warning sounded as to the improper use of thyroid extract is a timely one. No case of exophthalmic goiter that has given a history of the use of thyroid extract has profited thereby.

Dr. Sydney Kuh:—The nervous symptoms mentioned by Dr. Mettler can, I think, be readily grouped into three classes. First, symptoms like the tremor, nervousness, which are as constant as any of the cardinal symptoms given. These we are justified in considering part and parcel of the disease. Then there are complications as bulbar paralysis, external ophthalmoplegia, myoclonia, and a combination which I had occasion to observe recently—muscular dystrophy. They have the same basis as the exophthalmic goiter proper, i. e., the neuropathic disposition which predisposes them to any nervous disease. The same statement holds good in the case of some of the psychoses which we see associated with and complicating exophthalmic goiter. A third class would be formed by the psychoses of exhaustion, which are due to the exophthalmic goiter proper.

I wish to protest against the statement that moral obliquity is a common symptom in patients suffering from this disease. My experience with exophthalmic goiter has been very large, unusually large, and I have not observed moral defects any oftener in these patients than in those affected with any other diseases or in otherwise normal individuals. Among the eye symptoms there is one worth mentioning, because it is very often the earliest of all eye symptoms. It can be elicited by making the same test that we make in searching for the von Graefe symptom. In place of the steady continuous downward movement of the eyeball, we see a jerky, discontinuous movement in the early stages. The symptom has been described only very recently.

As to the treatment, Dr. Billings said that his results from the use of thyroidectin have not been as good as were those recorded by others. I felt that in a way that was a remark which interested me personally, since I believe I was the one who reported the largest number of cases treated by thyroidectin. I wish to recall the statement I made at the time we discussed this method of treatment in this society. I had then 10 cases that had been treated with thyroidectin. I

said at that time that it was my impression that thyroidectin was not as efficacious as the liquid serum. What I then gave as a probability, I think I can repeat now as a certainty. My experience has increased. I have about a dozen cases treated with liquid serum and about three dozen treated with thyroidectin, and I am of the opinion that thyroidectin is of far less value than is liquid serum. In not a single instance in which the liquid serum was used did it fail to give results. One of my patients was seen by Dr. Billings, and, if I am correctly informed, he gave a bad prognosis. That patient is not completely cured, but feels perfectly well and is able to attend to her household duties. There is still a little exophthalmos and a slight swelling of the gland. Another patient gained 20 pounds in six or eight weeks. I believe firmly, that in the serum of Moebius we have a very useful agent. I do not believe that it cures, nor do I believe that any other treatment, except perhaps surgery, will cure these cases.

Dr. A. J. Ochsner:—The danger of the surgical treatment has been very much overestimated, because of the newness of the operation and consequently everyone who did operate had no personal experience worth mentioning. Now that there has accumulated a considerable amount of experience, I believe we can look on this operation as a relatively safe one, except in those cases that are unfit for any kind of operation. There are six dangers to guard against. The first danger comes from the anesthetic. These patients take ether comparatively well, but the balance is not as strong in their favor as it would be if they had not this disease, so that one should stay on the safe side so far as the amount is concerned. This difficulty I have overcome in the following manner: The patient is anesthetized thoroughly and then the head is elevated before beginning the operation, the operation being completed without any further anesthetic, the patient remaining anesthetized as the result of the cerebral anemia. Toward the end of the operation the patient is able to speak a little, although he will not remember any pain. In that way one can protect the recurrent laryngeal nerve if the field is somewhat covered with blood.

A second danger is from hemorrhage, which Koehler has practically eliminated. The third danger, and probably the greatest, which causes the death of most patients at first, is the occurrence of acute thyroidism. The surgeon was not accustomed to the operation and consequently the gland was manipulated unnecessarily, so that a great amount of thyroid substance got into the circulation. Now we are more careful, and we have no more acute thyroidism. The next danger comes from the cachexia, which we have also practically eliminated, because everyone leaves a portion of the thyroid in place. Then there is the danger from sepsis, which is also practically eliminated at the present time. Bearing these things in mind, these patients do remarkably well. I have operated on over 30 of them, and my experience has been the same as that of the others.

Dr. B. W. Sippy:—I wish to call attention to a symptom-complex resembling that of exophthalmic goiter which is seen frequently in the case of chlorotic girls. They have a tachycardia with some enlargement of the thyroid, dyspnea and anemia, and it is easy to make a mistake and call the case one of exophthalmic goiter. We should be careful in examining these cases in order to avoid this mistake.

Dr. D'Orsay Hecht:—Since Dr. Sippy has very appropriately sounded a note of warning from premises of differential diagnosis, might I admonish with reference to another danger occasionally encountered in the severer cases of exophthalmic goiter? There exists in many cases a state of prolonged evenly sustained mental excitement which not infrequently ascends to the plane of aberration. Hallucinations and delusions may occur which suggest impending insanity. This state of mind alternating as it does with well-defined depression, bordering on melancholia, must be recognized and promptly dealt with in order to avert the disaster of suicide. This possible tendency in the presence of such symptoms should never be lost sight of. The tumultuous heart action, the intense migraine-like headaches, the chronic insomnia, are of themselves enough to make life unbearable to some of these patients.

Intellectually they are not weakened, but varying degrees of mental stupor, terror and delirium have been observed in the advanced stages of the disease. Psychic phenomena aside, I feel like asking Dr. Bevan to tell use more of the surgical limitations in these cases, when is the best time to operate, and what constitutes a cure?

In the various papers and discussions upon this same subject by the elder Kocher, Mayo and others, cures are reported in an astonishing percentage, but the postoperative time limit of observation seems not to be stated. Has enough time elapsed to pronounce the cases cured? In the past two months I have recommended and had operations done in two of my cases, but the period for conclusion has been too brief, although I confess to a notable improvement in all the subjective symptoms and some of the signs. Perhaps Dr. Bevan will emphasize this point in closing.

Dr. George W. Hall:—Some of these patients have a most voracious appetite, eating several times a day, and then not satisfied. Dr. Wood mentioned unilateral exophthalmos. I remember seeing one patient who had an eye extirpated on account of a supposed malignant growth in the orbit. Later the other eye became enlarged, and not until then was the diagnosis of exophthalmic goiter made. Dr. Wood speaks of the exophthalmos being caused by a deposit of fat in the orbit, or to an overfilling of the blood vessels. I would like to ask him whether or not some of these eye symptoms may not be due to a spasm of the muscles.

Dr. Billings (closing the discussion on his part):—Although I did not mention fever in my paper, I have found several conditions, but always associated with infection, such as tonsillitis or pharyngitis. When this infectious condition subsided, the temperature was normal or nearly so. Albuminuria occurred in 11 of my cases of exophthalmic goiter, and in one case there was a glycosuria.

In reference to the exophthalmos, I would like to ask Dr. Wood whether he read the report of MacCallum's experiments made on dogs two years ago? He showed that the exophthalmos is not due to the causes usually assigned to it, but to a contraction of the muscle covering the contents of the orbit, which is continuous with the muscles of the lid and passes backward cone-shaped to the back of the orbit. The contraction of this muscle pushes the eye forward, as was shown very nicely in the experiments reported.

As to treatment, I want to beg of Dr. Kuh not to think that I made any personal reference whatever. Drs. Mix, Moyer and others have also reported cases similar to Dr. Kuh's. My paper was based entirely on my own experience. I have not had the results from the use of thyroidectin that have been reported by others, and in two instances alarming results arose from its use, one patient getting into a condition resembling acute thyroidism. This patient finally died after a second attempt to use thyroidectin. I do not believe in the use of drugs any more than anyone else, but having heard Dr. Forchheimer emphasize the use of hydrobromate of quinin, I used it, and I have never used a drug which produced the calming effect on the vasomotor apparatus as quickly and effectively. It has more good effects than any other one drug.

Rest is the essential thing, and this may not mean rest in bed for every patient. I have kept patients in bed continuously for eight months, others for six and four months, with beneficial results in each case. I was astonished to hear Dr. Quine say he did not get any effects from the local application over the heart of an ice-bag. It is one of the best local remedies I have employed. As to bromids, we all are agreed not to use them constantly, but only when necessary.

Dr. Preble (closing the discussion on his part):—When one opens up the question of differential diagnosis, a wide field presents itself. For example, one of the common errors made is confusing exophthalmic goiter with ordinary neurasthenia. It seems impossible that this can be done, and yet it occurs. Another error, still more peculiar, is confusing exophthalmic goiter with Addison's disease. It is only by studying the clinical picture as a whole that one can avoid errors of that sort.

In regard to the treatment, the same thing can be said of the medical treat-

ment of this affection as can be said of the medical treatment of other conditions—that where there are so many drugs advocated as a means of cure, it is not likely that any one of them has any particular effect. I am sure we are all agreed that the drugs employed have little more than a palliative effect, and that the most efficient combinations are those which contain cardiac stimulants and sedatives, such as strophanthus and bromids, or digitalis and opium. As my experience grows, I become more and more inclined to consider the condition absolutely a surgical one, that the disease is the result of hyperthyroidism. By removing a portion of the gland the cause of the disease is removed. In removing the gland two things are absolutely essential: That no time should be wasted, and that the gland should be removed with as little manipulation as possible, so as to prevent the occurrence of acute thyroidism, which killed so many patients in the early history of the operation.

Dr. L. Harrison Mettler (closing the discussion on his part):—I simply want to emphasize once more that the diagnosis, in my opinion, is by no means an easy matter. I am not speaking of the plain cases that can be diagnosed half a block away, but of those cases in which a careful diagnosis is required, in which the mistakes referred to can be made, and in which we lay too much stress on the other symptoms instead of tying our anchor closely to the syndrome. In a large number of cases we will find that we have some other condition plus the exophthalmic goiter, and that the other symptoms are not part of the goiter.

I want to endorse the treatment with eodein and bromids. So far as the medical treatment goes, that has given me the most satisfaction, combined with rest. I agree that the thyroid gland is responsible for a large part of the symptoms, but I will not go so far as to say that it is the origin of the trouble. I also urge early surgical intervention in selected cases, but I wish our surgical friends would give us a little more definite opinion as to what we should expect to find when we want to refer a patient to them for an opinion. I have sometimes been in doubt as to whether to go on with my medical treatment or to advise surgical intervention.

Dr. Casey A. Wood (closing the discussion on his part):—I did not intend to convey the impression that exophthalmos is a common symptom, although it is met with frequently. As to Stellwag's symptom, the anesthesia of the cornea is probably in the majority of cases the cause of the infrequent ophthalmia. There is a lid edge sense that the cornea ought to be cleaned by rubbing the lid over it, and when there is anesthesia it may be that the lid edge sense is absent.

Dr. Billings spoke of the experiments of MacCallum. In quite a fair percentage of human beings we find that vestigial remnant of the retractor muscles connected with the eyeballs in which the eyeball may be thrown back or a proptosis may be produced. I suggested that in all the cases of exophthalmic goiter this muscle would be well developed, and in others it would not be found developed at all. That, however, is a hypothesis which requires some investigation.

The terms, Basedow's and Graves' disease have been used. If we want to use names, let us be just. The name of the Englishman, Perry, ought to be remembered. He described the disease years before the other men wrote about it at all. And in between Perry and Graves comes the Italian, Fliani.

Dr. Bevan (closing the discussion):—I simply desired to present the possibilities of surgery in the treatment of exophthalmic goiter. The question has been asked, How complete are these cures? I believe that when a sufficient amount of the gland has been removed the cures are complete. In looking over the statistics of these cases you will find some such statement as this: Fifty per cent completely cured; 20 per cent, very greatly improved; 10 per cent, somewhat improved; 10 per cent, not improved, and 10 per cent, died. In the more recent work done the operations have been more complete, because we recognize the fact that the symptoms of the disease are due to a hyperactivity of the gland. The rule to-day is to remove the larger half of the gland and then if the patient is in only fair condition, the other arteries are ligated. If the patient is in first-class condition, then the arteries of the other half of the gland are clamped and from a half to two-thirds of the gland is removed. In the complete operation the

eures are complete. The patient I saw with Drs. Preble and Herrick still has a little exophthalmos in one eye, but she is well in every way. One of my patients who was not improved simply had one-half of the gland removed, although the other half was quite large. There was no permanent improvement. I am thoroughly convinced that if I had removed two-thirds of the remainder of the other lobe that there would have been a very marked improvement.

The possibilities of modern surgery are this, that at least 90 per cent. of these patients can be cured if a proper amount of gland substance is removed. The mortality is less than 10 per cent. What results are obtained by the expectant treatment and by the medical treatment in these cases? If better results can be shown, then I say follow the expectant plan; but if, on the other hand, 20 per cent. or more of these patients die directly or indirectly because of exhaustion, then surgery should be the routine treatment. Personally, I would say that in the beginning of the case, unless it begins very acutely, it should be handled by the medical man. If the patient does not improve and there is evidence of his passing into a grave condition, he should be operated on, exactly the same as though it were a case of gallstones, or a stomach or an appendicitis case.

CHICAGO UROLOGICAL AND CHICAGO MEDICAL SOCIETIES— JOINT MEETING.

A joint meeting of the Chicago Urological and Chicago Medical Societies was held Dec. 19, 1906, with the president of the Chicago Urological Society, Dr. L. E. Schmidt, in the chair.

SYMPOSIUM ON TUMORS OF THE URINARY BLADDER.

Dr. J. Allen Patton read a paper on "The Pathology of Vesical Tumors." Dr. Daniel N. Eisendrath followed with a paper on "The Diagnosis of Vesical Tumors." Drs. Gustav Kolischer and Louis E. Schmidt contributed a joint paper on "The Operative Treatment, from a Modern Aspect, with Exhibition of Patients, Specimens and Models."

The discussion was opened by Dr. William T. Belfeld and continued by Drs. William L. Baum, Frederick Leusman, Maximilian Herzog, G. Kreissl, Henry Gradle, Victor J. Baceus, Louis Greensfelder, D. N. Eisendrath, and the discussion closed by Dr. Kolischer.

DISCUSSION.

Dr. William T. Belfeld:—The oldest of the three embryonic layers (epiblast) produces the epithelium of the skin, the central nervous system, and later the mouth and anus. The second layer (hypoblast) produces the epithelium of the alimentary canal and digestive glands. The last and intermediate layers (mesoblast) produce the connective tissue structures and the reproductive organs. The mesoblastic tissues complete their development after puberty.

The malignancy and frequency of cancer seem to vary directly with the phyletic age of the various organs, being least in the earliest, greatest in the latest organs. Thus, carcinoma is notoriously frequent and malignant in the breast and the uterus. The breast, a specialized skin gland, appears with the mammals, the completely fused uterus with specialized cervix appears in the apes—both, therefore, among the latest organs. Cancer of the skin in general—that primeval organ—is notoriously benign compared with that of the breast; cancer of the Fallopian tubes and the vagina (ancient parts of the Müllerian duct) is far less malignant and frequent than that of the uterus. Of the urinary organs, the bladder is the latest, appearing first in the amphibians; and vesical cancer is more frequent and malignant than the same disease in the more ancient ureter.

The malignancy of bladder cancer may be compared with that of the breast; further experience has corroborated the doubt expressed by Guyon many years ago as to the benignancy of any form of bladder cancer. The surgery of vesical cancer, which is the creation of the cystoscope, and therefore only twenty years

old, has taught the same lesson learned through larger experience in the surgery of the breast. At first the surgeon removed cancer from the breast; then he removed the breast with the cancer; and in these latter days he removes the breast and all accessible lymph glands and fasciæ liable to infection. And yet the permanent cures of cancer in this organ—ideally situated for surgical attack—do not average more than 33 per cent. Still less favorable are the final results in the removal of vesical cancer, more difficult of access than is the breast. At first, surgeons removed merely the cancer; then they resected the bladder with the cancer; latterly they have removed the entire bladder—and yet permanent cures are less than 33 per cent.

Within the year hundreds of operations for vesical cancer have been reported and reviewed by Rafin, Watson and Trephin. The first named reports 57 cases of extirpation of the growth; of the 38 survivors whose history was traced nearly all died within six months. Partial resection of the bladder was made in 96 cases, with 21 operative deaths; of 52 survivors who were traced, 24 died of recurrence within the first year, and only 5 were free for more than three years. Total extirpation of the bladder was made in 30 cases, with 17 operative deaths; only 2 of the survivors were alive at the last report.

Watson collected 410 cases, with 46 per cent. of deaths and early recurrence; even the tumors considered benign recurred rapidly in 20 per cent. of the cases. Trephin reviews the history of 45 patients whom Kümmell has operated on for tumor in the past twenty years, including 34 papillomata and 9 carcinomata. Of the former, 19 were malignant and rapidly recurred; in 3 of the 12 apparently benign growths, rapid recurrence ensued. Only 5 of 30 patients with malignant tumors survived after intervals of seven to sixteen years.

Such results prompted Bazy to declare to the French Urological Congress that no material improvement in results has been shown in the past twenty years; even total extirpation of the bladder, while increasing the operative mortality, does not seem to afford much immunity against recurrence.

While excision of malignant vesical tumors seems justified by the mitigation of the patient's sufferings, yet permanent cure can be expected in only a small minority of the cases; recurrence is frequent years after the operation. It behooves an operator, therefore, to be extremely conservative and deliberate in reporting the operative cure of vesical carcinoma or even papilloma.

Dr. William L. Baum:—After listening to the papers and the discussion by Dr. Belfield, there is very little left to be said on this subject. I would like to call attention, however, to the fact that the differential diagnosis, as outlined by Drs. Eisendrath and Kolischer, is not as easy as it would seem. According to the more recent work on the subject, it is only possible to differentiate some of these tumors microscopically. While we may consider the villous form of bladder tumors as being benign, and also that they are easily removed by the endovesical method, we can see, from what Dr. Belfield has just said, that the consensus of opinion is crystallizing toward the view that such tumor formations differ in their malignancy only in degree. With the cystoscope, as Dr. Eisendrath has pointed out in reference to malignant growths of the bladder, most of these tumors show some exulceration, but most of us who have done considerable cystoscopic work agree that it is only in the later stages of such tumor formation that any exulceration is apparent.

The most interesting feature has been the operative procedures suggested by Dr. Kolischer. The operative procedure he has suggested is not only rational and unique, but certainly the best method known up to the present time. However, I agree with Dr. Belfield when he says that we are only at the beginning of operative methods for the removal of bladder tumors, and that after all the majority of these cases are diagnosed at a period when glandular infection has taken place, and it will be necessary to remove all the glands before any very large proportion of them can be called cured. There is very little that can be said on this subject at the present time until we can determine the exact place of operative intervention in bladder tumors.

Dr. Frederick A. Leusman:—I want to add to what Dr. Baum has already said, that the diagnosis of bladder tumors by means of the cystoscope in the early stages is one of the most difficult things we have to contend with. On the other hand, after the tumor has developed, it can be easily seen by means of the cystoscope.

Let me say a word or two about the cystoscope, because there may be some men present who have not used the instrument. I remember very well, not many years ago, in perusing the advertising sheets of the *Berliner Klinische Wochenschrift*, of seeing the Koch method advertised of making examinations for tuberculosis, and it was said that this work was being done in the laboratories in Berlin. By means of this method one could demonstrate tubercle bacilli in the sputum. This was called quite a feat at that time, and it was thought that practitioners had to go to Berlin in order to demonstrate the tubercle bacillus in the sputum. Well, now, that time has passed. Nowadays tubercle bacilli are easily demonstrated by laboratory methods, and practitioners are taught the trick in a week or two. That applies to some extent to the use of the cystoscope. I remember very well that about ten or twelve years ago when we tried air inflation, and I worked faithfully on my private patients, after I had once tried it on them they did not come back again. Soon another case turned up. I was interested to look into the bladder; I did not want to drive away this young man with air inflation. I took him to my friend, Dr. Kolischer, and asked him to examine his bladder. Dr. Kolischer was then the possessor of a Nitze instrument. I watched him carefully and saw the ease with which he introduced the instrument and looked into the bladder, and I could see what he could see. Now, the main thing in cystoscopy is to have a good cystoscope. I have used the Nitze cystoscope very successfully and with satisfaction to my patients and myself. I can commend the use of this instrument. If one can introduce a sound into the bladder he can with a little practice and experience use the cystoscope, and the more he practices the more will he learn to see. If he can find tubercle bacilli in the sputum, he can by the use of the cystoscope see a villous tumor in the bladder, if there is one present, as well as an expert who has done it for twenty-five years. When it comes to seeing other bladder tumors, then it is all off. It is more difficult to detect them; and then even the experts will disagree. As to the early diagnosis of a benign or malignant tumor, before ulceration, with the aid of the cystoscope, there is none.

Dr. M. Herzog:—I was present at an operation that was performed by Dr. Schmidt, and when I saw the masses which were removed and what part of the bladder was removed, and when, after making a microscopical examination, I found that the growth was a spindle-cell sarcoma, I expected to be called upon to make a postmortem on that patient in a short time. But I learned from week to week that the patient was getting better, and could retain a larger and larger amount of urine. After the removal of the major part of the bladder, the large amount of urine which can be retained can be easily explained from what we know about the regeneration of tissues. The bladder, consisting of muscle fibers and connective tissue, is entirely composed of tissues which easily regenerate, and this regeneration is evidently compensated for by the fact that the bladder can bear completely a certain amount of pressure, and in that way a new bladder may be formed.

Dr. Belfield has made some remarks on the histogenesis of tumors which, as he himself has said, are entirely original, and which somewhat challenges the criticism of the pathologist. In the first place, he spoke of the development of the mesoblast and of the mesoblastic tissue, and said that all epithelial structures, if I understood him rightly, of the genitourinary tract are mesoblastic. The fact is that this is one of the most contested questions in embryology, and I myself venture the opinion that all so-called mesoblastic epithelial structures are derived from the hypoblast. He made the statement that, as a rule, epithelial malignant tumors, coming from epithelial cells, develop early in embryonal life, and form structures early in phylogenetic development. He cited, as

an example, the mammary gland. On the other hand, we know how malignant epithelial tumors of the uterus are. Let us take the epiblastic tumors—the sarcomata. The mesoblast, while it is not developed as early as the epiblast and hypoblast, is present in all higher animals, and we find epiblastic and hypoblastic tumors, some of which grow rapidly, some slowly, and are not considered very malignant. That depends upon the nature of the infection, whatever it may be, and upon personal predisposition. In some individuals sarcoma may grow rapidly; we may have a rapid development of tuberculosis; in others we have slow, not very malignant, tumors.

There has been a remark made to-night by two of the speakers that papilloma of the bladder is not much different from carcinoma. We know that certain papillomatous tumors may give rise to implantation metastases. One of the commonest tumors is the cyst-adenoma in the female. These tumors will give rise to implantation metastases. I have seen any number of these cysts, because they are common tumors in the female, and yet I have seen but three which became malignant. Of course, such papillomatous growths may undergo a change through epithelial proliferation, and wherever that occurs there is a chance for the carcinoma to develop. These tumors of the bladder, papillomata of the bladder, have to be examined carefully to see whether they present malignant features. The fact that a papilloma may develop into a malignant tumor by no means proves that it is primarily a malignant tumor.

Dr. F. Kreissl:—There is no doubt in my mind that if we could always diagnose vesical neoplasms, especially malignant tumors, with the aid of the cystoscope, at an early date the prognosis and surgical results would be much improved. Unfortunately, however, the symptoms of malignant vesical growths—hemorrhage and pain—are either absent in the early stage or so insignificant as to remain unobserved until the advanced changes of the latter stage call for intervention. At other times the real issue in the case is obscured by the symptoms of incidental lesions, as stricture, posterior urethritis, prostatitis, prostatic hypertrophy, etc. Yet there is one drawback to the value of cystoscopy in these cases. While we are usually able to ascertain the presence of a vesical tumor, we can not always say from the cystoscopic inspection alone if the tumor is benign or malignant. Most authors agree that neither the looks of a tumor nor even the microscopical examination of fimbriae permit us to determine whether it be benign or malignant. However, if in doubt, we are in a position to form some definite idea as to its malignancy by repeated cystoscopic examinations in short intervals. In this way we can follow structural changes on its surface and watch the rapidity of its increasing volume. If growing rapidly, and it becomes exulcerated, we may expect malignancy, but if it is growing very slow, or remains stationary for a long time without showing evidence of breaking down, the tumor may be pronounced benign.

That very few cases of malignant vesical growth in the early stages have been observed, or when observed have been misinterpreted for one reason or another, appears from the fact that nowhere, even not in Nitze's work on cystoscopy, do we find in the text or illustrations the description of them. That they can be discovered sometimes, and operated with good results, is clearly demonstrated in the case of Dr. Gradle, who is with us to-night. He consulted me about four years ago for some vesical trouble of long standing, consisting of dysuria and cloudy urine. In the cystoscopic examination I found a mild chronic cystitis of the trigone and the vesical neck. The trouble yielded readily to a few applications with mild nitrate of silver solutions. Dr. Gradle, who had watched his urine daily since then, saw me again in March, 1904, stating that for the preceding two weeks he was passing a few drops of clear blood following the urination. The cystoscopic examination revealed a peculiar shaped formation forward and above the ureteral orifice on the left bladder wall. The mass was an irregular oval, slightly elevated, sloping down to the perfectly normal bladder wall, with a very sharp line of demarcation. Its surface was smooth, pink in color, reflecting the light everywhere except at one extremity, where a small bleeding ulcer was situated.

Having seen all kinds of vesical neoplasms and other pathologic conditions, none of which corresponded with the present picture, and considering the clinical symptoms, I diagnosed the case as the early stage of a malignant growth, and advised Dr. Gradle to consult other expert cystoscopists. He was examined, in the presence of Dr. L. L. McArthur, by two specialists in this city, who, after having been acquainted with my diagnosis, pronounced the lesion a burn caused by my cystoscope lamp. I wish to say here that even if I had been clumsy enough to burn a bladder, after years of extensive cystoscopic work, such was out of the range of possibility in this case, because I used a so-called cold lamp, as Dr. Gradle, who held the lighted lamp in his hand, can corroborate. Dr. Belfield and Dr. L. L. McArthur saw the case in consultation with me three weeks after this episode, and by comparing the present size of the tumor with its appearance at the first and second examination, respectively, admitted it had grown considerably, and that there was no evidence of a burn. In a subsequent examination, the two above-mentioned specialists pronounced the case as cystic cystitis, and still later on, when the tumor had grown to the size of a large walnut, at least one of them concluded it was a tumor. In August, 1904, Dr. Gradle was operated by Nitze in Berlin, who in a letter addressed to me shortly after the operation, corroborated my diagnosis of carcinoma and location of growth, and mailed me some microscopical specimens of it which we have here for inspection. There was no evidence of a burn or a resulting scar, as Nitze assured Dr. Gradle upon his inquiry. This case clearly demonstrates that even expert cystoscopists may sometimes have their difficulties in diagnosing a malignant vesical tumor, especially in the earlier stages.

Dr. Henry Gradle:—The subject of bladder tumors is so entirely out of my own line of work that I would not discuss it were it not for the fact that I have been referred to as a patient, and perhaps it may be well to speak of some of the subjective impressions one gets from undergoing this ordeal.

My attention was called to the bladder by a slight terminal hematuria, in January, 1904, and within a short time after its appearance Dr. Kreissl examined me and found what seemed to him to be the beginning of an epithelioma on the left lateral wall. He described it to me as a flat, scarcely raised elevation, slightly ulcerated, and evidently the source of the hemorrhage. One year previously a cystoscopic examination made by him on account of prostatic trouble had shown a normal bladder. I had no subjective symptoms except a slight hematuria. Whatever annoyance I had was due to a proctitis, which had existed previously, and there were no new symptoms at the time when the suspicious spot was discovered. Dr. Kreissl felt positive about the diagnosis, and spoke of the necessity of operation, but advised waiting a few weeks, as other practitioners might differ from him. Several other gentlemen took a keen interest in my case, and I wish to thank especially Drs. L. Schmidt and Belfield for their kind attentions. Both of these observers did not side at first with Dr. Kreissl. About six or eight weeks later they both admitted, however, that the appearances indicated malignancy with such great probability that an operation was advisable. Another genitourinary surgeon, generally considered an expert in Chicago, denied the diagnosis and called the lesion a burn made by the cystoscope. Later on, when all others agreed regarding its being an epithelioma, he still dissented and used every possible argument against operation, even if it were a tumor. When I saw there was so much hesitation as to the diagnosis in my case, I went to Nitze, who had had the largest experience of anyone in the world in this line. He found a tumor of the bladder about the size of a walnut, with such characteristic appearance that he had no hesitation at all in declaring it to be a carcinoma, and advised immediate operation. I would have much preferred to have returned to the gentlemen who had taken care of me in Chicago; but I must confess I was alarmed by the rapid growth of the tumor, according to the descriptions I had had before leaving and those I got on being examined in Berlin. Furthermore, Nitze impressed me forcibly with the fact that his

experience was much larger than that of anybody else in the world, and that his mortality, although about 11 per cent., was smaller than the statistics of others. Operation was performed by Nitze in a radical manner, who excised a circle of about two inches in diameter of the bladder wall, and microscopic examination left no doubt as to the character of the growth. As far as one could tell from the partial microscopic examination, there was no infiltration into any layer deeper than the mucosa. Anyone interested in the case can see the specimen under the microscope.

I have nothing further to say, except to remark that the bladder was not sutured, as Nitze thought there was too much danger of hemorrhage. There was a good deal of continuous bleeding from the stitches, and the wound was left open to granulate, and for a while the permanent catheter was introduced. My own conviction is that the permanent catheter, while not as disagreeable as one might imagine, is not necessary or even useful. The catheter was finally removed, and the large opening continued to cicatrize at the same rate as it was done while the catheter was in place. For a while a fistula remained, and although I was strongly advised to reinsert the catheter, and was assured that the fistula would not close, still it did close in the end, mainly, I believe, on account of the pressure of a truss which I found necessary on account of a hernia. It has now remained closed eighteen months. It is nearly two and a half years since the operation, with no indications of any relapse. The bladder power has not increased in capacity within the last eighteen months.

Dr. Victor J. Baccus asked Dr. Kolischer whether, in exposing a malignant tumor of the bladder, the peritoneum is dissected or stripped over it. He also inquired from what type of sepsis the patient died.

Dr. Louis Greensfelder:—I have had the pleasure of seeing Dr. Kolischer operate on five cases of malignant tumor of the bladder. Having done a certain amount of bladder surgery, and having seen a number of other surgeons do this work, there are certain phases of Dr. Kolischer's work which impressed me favorably.

The first point was the stripping back of the perivesical fat and attaching the same to the peritoneum. In the cases I saw Dr. Kolischer operate on, the peritoneum was stripped off the bladder, so that from that time on he did his work extraperitoneally. A large incision can, therefore, be made in these cases, as, for instances, in one case where a very large prostate was removed. In this case every step of the operation could be seen. Everything was within easy reach.

In a case of large carcinoma, fully one-third or more of the bladder wall was excised. The incision was made suprapubically irrespective of the location of the tumor, and the portion of the bladder involved by the tumor was excised without cutting into the neoplasm, a procedure which has been condemned in other portions of the body, thus cutting into carcinomatous tissue, spilling carcinomatous juice, thereby causing implantation or infection. In these cases the entire bladder wound was closed by one or two layers of catgut, and the insertion of a cigarette drain. In stripping back the vesical fat and in anchoring the bladder to the fascia, or to the skin, we have practically a very small dead space left, and a cigarette drain introduced in such a place will drain. We may have a leakage of a few drops of urine, but, as a rule, that has not been so. Almost as soon as these patients came out of the anesthetic, they were ready to void urine without the use of a catheter. They were patients who could sit up soon after the operation. Another factor in the progress of general surgery, as well as in surgery of the bladder, is that gas anesthesia can be given an hour or more without usually postoperative results.

Another feature I have observed from my own work is not to introduce a catheter postoperative in these cases. If a patient is unable to empty the bladder, it is a simple thing in three or four hours to introduce the catheter to empty it, or to irrigate such a bladder. There can be no question that the mere presence of a catheter in the bladder acting as a foreign body produces the

tenesmus we have all seen. The bladder is continually irritated; there is traction on the sutures, and in many cases there is leakage at the suture line.

Another point that impressed me is that in order to do this work in malignant cases properly, it presupposes, first of all, that the use of the cystoscope is in competent hands. In all of the cases I have had the pleasure of witnessing, it has been possible for the operator to locate accurately the tumor before operation. If the operator said that the tumor was on the left side, in such and such a location of the trigone, it was always found there at the operation. It is difficult to locate small tumors of the bladder. I saw Dr. Kolischer remove a small tumor of the bladder, which was diagnosed as carcinoma, from the exact location in which Dr. Kolischer expected to find it.

So far as recurrence in such cases is concerned, if the patient we saw here this evening is free from hemorrhage and pain a number of years the patient has been undoubtedly benefited by the operative interference.

As to resecting the glands in such cases, the risk incurred by so doing would be greater than the benefit derived from the operation, because it is by no means settled that these glandular enlargements are carcinomatous; they are just as often inflammatory. When you have enlarged glands that you can palpate, they are just as apt to be inflammatory as carcinomatous.

Dr. Daniel N. Eisendrath:—The work which has been done in relation to cholecystectomy by the assistant of von Eiselsberg of Vienna, is interesting in this connection. He found that the entire gall bladder, or, at least, two-thirds of it could be resected, and yet at the end of three or four months a bladder would reform, which had a capacity of 600 c.c. He experimented with a number of animals in which the gall bladder was removed in its entirety, and yet within six months or a year after that time the same animals were killed and the stump of the cystic duct injected, and it was found that a gall bladder had reformed almost as large as the original one removed. So this is an analogy which has been proven in regard to another viscus.

Dr. Kolischer (closing the discussion):—Before replying to the remarks of the different speakers, I wish to say that Dr. Schmidt and I have worked honestly and faithfully together, and our work will be published jointly, and I can frankly say that there is absolutely nothing in which one man has had the advantage of the other.

As to the remarks of Dr. Leusman, that in some cases we can not tell merely by cystoscopic examination whether a given tumor is certainly malignant, he is correct in his statement. But I think we covered this point already in our paper, by saying that a suspicious growth always has to be considered as a malignant tumor and has to be operated upon accordingly. There is another possibility: If an apparently benign tumor was removed by endovesical methods, and the microscopic examination of the specimen reveals signs of malignancy, the first operation has to be followed by appropriate resection through the suprapubic route.

The statement that in the majority of cases it is impossible to determine by cystoscopic examination the benign or malignant nature of the tumor, can be very easily disposed of. Such a statement could only truthfully be made, if an author would have made numerous cystoscopic examinations of a great number of bladder tumors, and then would have removed all these tumors and compared his cystoscopic diagnosis with the findings of the microscopical examinations.

Now, the only man who ever had this chance, and who actually did this work, was the late Nitze. Allow me to quote his statistics, published before the Thirty-fourth Congress of German Surgeons (1905). Nitze reports that among 271 anatomically examined bladder tumors, there were 170 benign papillomata; furthermore, he reports as to the permanent results of endovesical operations 70 per cent. permanent cures and 18 per cent. recurrences.

I think we showed in our paper how sufficiently for practical purposes the differential diagnosis can be made by cystoscopic diagnosis, a view in which all experienced cystoscopists coincide. Weinrich, who for years was Nitze's assist-

ant, says in his latest publication: "Offer the possibility of such a cystoscopic diagnosis was doubted, but during the ten years of my assistantship to Nitze I very rarely saw my chief mistaken in this respect. . . . Certainly the making of such a diagnosis calls for a certain amount of practice, which, however, is not so very difficult to get." How often so-called recurrences of papillomata are simply due to having overlooked at the time of the first operation a few smaller growths, was already mentioned.

Dr. Belfield takes rather a pessimistic view of the situation: his opinion as coming from a man of his known scientific attainments and of his vast experiences certainly has weight. However, this much can be said in mitigating his views: There are two cases of bladder cancer on record that did not show any recurrence for more than twelve years after extirpation of the viscus. There are cases on record, in which recurrence did not occur before ten years, and Mikulicz, for instance, said that if he accomplished nothing else he certainly prolonged the life of patients, who were suffering from cancer of the bladder, for from two to three years.

The question whether all or whether at least the majority of originally benign tumors of the bladder change in due course of time into malignant tumors is still *sub judice* among the pathologists. So I think it is reasonable to try as in malignant tumors in other organs to perfect our methods and be honest about the reports of the knowledge gleaned and of the results accomplished.

CHICAGO OPHTHALMOLOGICAL SOCIETY.

Meeting of Nov. 13, 1906.

Dr. George F. Fiske, President.

FISSURE IN THE MEMBRANE OF DESCMET PROBABLY DUE TO HIGH MYOPIA.

Dr. Casey A. Wood presented a girl of 10 whose mother had noticed "streaks running across the pupil." Examination reveals numerous, deeply placed, nearly parallel, white lines coursing obliquely across the pupil area of the cornea, though nowhere spanning its entire width. When the eye is rotated under oblique illumination, these fine lines are seen to have a highly refractile double contour and resemble rods or threads of glass. No other alterations of the cornea are to be found and fluorescein does not stain the stroma. Myopia of 20 D. is present, and the cornea measures 1 mm. more in width than its fellow. The usual gross changes of myopia are to be seen in the fundus, and although the media are clear, vision is reduced to the counting of fingers at 10 cm.*

Dr. E. V. L. Brown stated that Wintersteiner was the first to call attention to fractures of the membranes of Bowman and Descemet, holding that tears in Bowman's membrane were more frequent than in Descemet's. Reis denied this relation and reported a series of 9 dehiscences in Descemet's and none in Bowman's. Seefelder corroborated these figures, finding 4 tears in Descemet's to 1 in Bowman's.

Dr. Mortimer Frank called attention to the cuts of two cases recently published by Sidney Stevenson in *The Ophthalmoscope*.

Dr. Casey Wood drew the attention of the society to the fact that of all the men who have written on this subject, about ten in number, from Wintersteiner, who first spoke of it in 1896, to Sidney Stevenson, the latter seems to be the only one who refers to the one factor constantly present in these cases—the distended globe, which seems to prove beyond peradventure that the trouble is purely a mechanical one and that the fine-drawn theories have no bearing at all. Descemet's membrane merely gives way under the distension incident to the increased curvature of the cornea.

CATARACT OF APPARENT SUDDEN DEVELOPMENT.

Dr. Frank E. Brawley exhibited a boy, aged 22 years, who, four days before he applied for relief, had arisen one morning to find his left eye blind. Examina-

* Published in *extenso* in the *Ophthalmic Record*, December, 1906.

tion showed the lens cataractous throughout and more densely so in sectors; a red reflex, but no fundus details were obtainable. There had been no pain or any other evidence of inflammation about the eye. The family history was negative; there had been no syphilis, constipation or nasal trouble. The urine was negative. An attack of influenza had confined him to his bed for three weeks one year ago. Vision had slightly decreased since the blindness was first noticed, and the patient can now only count fingers at a half meter. The color fields are gone and the field for white has been reduced about 20 degrees.

Dr. H. B. Young, Burlington, Iowa, stated that one must consider here the possibility of an indirect injury to the eye through an unrecognized fracture of the orbit. Some years ago he had seen a patient with both eyes so affected—from a bruise to the outer rim of the orbit received during a fall downstairs. A year later the one lens presented the appearance of an incompletely opaque senile cataract and the other that of juvenile cataract; vision had begun to fail two months after the injury, although there were no objective findings at that time. Dr. Young had recently been consulted in a medicolegal case in which the point at issue was whether or not an opacity at the posterior pole may so mature as to warrant cataract operation within two months.

Dr. Henry Gradle asked whether an examination was made under high mydriasis to see whether or not there were any changes in the periphery of the lens. He once saw a gentleman, aged 50, who claimed to have had a cataract for only a few days, with vision reduced to about 20/100; but he had an incipient cataract in the other eye which took a normal course. He thought that in all probability the patient's attention had been suddenly directed to a condition which had existed for some time.

Dr. Casey Wood asked Dr. Brawley whether or not he noted the tension in the affected eye.

Dr. Brawley stated that the fellow eye had been examined with dilatation ad maximum, but the lens and fundus were normal and vision 20/20; Jager 1 was read at 30 cm. The tension and pupillary reactions of the affected eye were normal.

DEPOSIT OF LEAD IN THE CORNEA.

Dr. William H. Wilder exhibited a patient, a lady, who, while walking through the fields about six weeks ago, had gotten something on her fingers and rubbed them against the eye, evidently abrading the cornea. She consulted a physician, who gave her a lotion. Immediately after using it the cornea became and has remained perfectly white; ciliary injection is considerable. Dr. Wilder thought it was a case of lead deposit in the substance of the cornea. A peculiar feature of the case is that while the epithelium did not reform over the abrasion, there was no tendency to deep ulceration.

HEADACHE OF NASAL ORIGIN SHOWING OCULAR SYMPTOMS ONLY.

FRANK E. BRAWLEY.

CHICAGO.

I shall try to-night to give you a résumé of some observations which I have been making during the past two years upon the origin of certain headaches, apparently ocular, but which resist all treatment directed toward the eyes.

Taking as a basis, the dictum of Casey Wood, that all unilateral headaches are due entirely or in great part to causes other than those to be found in the eyes, I began to study the nasal conditions found in these patients. The result is that I have succeeded in establishing the existence of a condition which has a clear clinical picture, an almost specific method of diagnosis and a distinctly specific treatment.

The clinical picture is as follows: There is a history of one or more severe attacks of "grippe" or protracted colds, or perhaps only the slight catarrh

which everyone is expected to have in this climate. The headaches are always unilateral in character when they first come on, although after an hour's duration they may become more general. The patient, and usually the physician, makes a diagnosis of neuralgia and that is quite correct, but does not get to the bottom of things sufficiently. These headaches have a way of coming on with some show of regularity and lasting for several hours and then ceasing. They may come on during the night, when ocular headaches, except from a distinct condition, such as iritis, never occur. If the pain is severe it may be accompanied by excessive formation of tears and blood-shot appearance of the eye on the same side with swelling of the upper eyelid and tenderness on pressure at the inner angle of the orbit or under the brow against the roof of the orbit, as compared with corresponding points of the opposite side. This condition has a way of appearing in attacks with intervals of complete relief during which the eyes may be used indefinitely. During attacks, however, it is almost impossible to read or look at anything near at hand, as the pain is tremendously increased thereby. There may be blurred vision, both for distance and for near. There is marked increase of pain upon stooping forward, as in picking up an article from the floor, and upon resuming the erect position dizziness is noticed. There is usually nausea, though seldom vomiting, and the patient says he "is sick all over." While stooping, oftentimes the area of greatest pain can be outlined by the patient, as it feels to him as though the area involved were being slowly pushed forward by a force from behind. Colds and menstrual period are often exciting causes. Jarring, as in riding on a train or from slamming a door, is almost unbearable. The pain is only partially controllable by sedatives. Excess in eating or drinking alcoholic beverages aggravates or may even bring on an attack.

No particular nasal history is to be obtained and often the patient objects to a nasal examination as useless, because he is quite sure his nose is normal.

The point which suggested routine nasal examination was that the attacks were periodical and somewhat regular in time of origin and duration, beginning, for example, at 10 a. m. and ceasing about 2 p. m. This symptom is very characteristic of involvement of the nasal accessory sinuses, and so led me to examine them carefully in these cases. I found in nearly every case that there was a hypertrophied middle turbinate body or one which anatomically was closely applied to the lateral nasal wall. Now every change in temperature or humidity causes changes in the erectile tissue of these turbinate bodies, and so, when little space exists for this physiologic swelling, the hiatus semilunaris, which is a furrow-like continuation of the fronto-nasal duct, is obstructed, and free interchange of air between the nose and the frontal and ethmoidal sinuses is prevented.

The earache of catarrh of the Eustachian tube or acute otitis media is an analogous condition. The air is thus imprisoned in the sinuses and its oxygen is absorbed through its lining mucous membrane, thus creating a vacuum which brings about swelling of the lining membrane and irritation of the contained nerve-ending branches of the nasal branch of the first division of the fifth. This explains the cause of the neuralgia, and in facial neuralgias this factor should always be borne in mind in making the diagnosis.

The patient should be seen during an attack, and cocaine in 4 per cent. solution and suprarenalin in 1-1,000 solution applied delicately to the anterior end of the middle turbinate body. Then this first application should be followed by others made under the turbinal and finally a curved wire applicator very thinly wound with cotton and saturated with the above solutions should be passed as far as possible into the fronto-nasal duct. This usually relieves the patient in ten or fifteen minutes, if thoroughly done, as it re-establishes the air circulation between sinus and nose and relieves the negative pressure. When this specific relief has been obtained, the indication is for removal of sufficient of the interfering turbinal to entirely free the exits of the frontal and ethmoidal cells. A punch forceps and snare will, as a rule, enable one to remove

in one piece the anterior quarter or third of the middle turbinal, and thus leave a clean-cut wound which quickly heals and permanently prevents a closure of these orifices. In a few cases applications of a 1 per cent. solution of iodine in glycerin about the middle turbinal relieved the condition.

I have succeeded in bringing on a similar pain in my own nose by producing the negative pressure with a pump apparatus. In addition, I have studied this form of headache in my own case during about twenty attacks. These I had always attributed to my eye muscles.

Regular meeting, Dec. 11, 1906.

Dr. George F. Fiske, president, in the chair.

Dr. G. F. Saker:—Ptosis sympathica in a young child, marked by incomplete paralysis of the levator and flushing of the lid-skin; the globe small and of minus tension with no disturbance of motility.

Dr. A. E. Bulson, Jr. (Ft. Wayne, Ind.):—"Further Report on the Successful Use of Tuberculin in a Case of Iritis Tuberculosa." Both the local and general diagnostic tuberculin reaction were obtained early in the case, and six or seven reddish-brown iris-nodules have disappeared under tuberculin treatment, although the cornea is still hazy. Mixed antisyphilitic treatment had had no effect. Dr. Bulson has under observation a corneal ulcer which he thinks was induced by tuberculin used for diagnosis of a tubercular laryngitis. He is, however, a believer in the use of large diagnostic doses when small doses give no results.

Dr. R. Rembe (by invitation):—"A Case of Cysticercus of the Anterior Chamber." E. B., aged 7, presented a translucent, spherical tumor lying on the infero-mesial surface of the right iris between axes 255 degrees and 15 degrees, measuring about 3 mm. across and almost completely filling out this quadrant of the chamber. Distinct motion was observed by Dr. Rembe in the long axis of the mass before atropin was used to combat the slight iritis. The mass was removed by a forceps through a corneal incision. Additional circumstantial evidence that the tumor was removed by a forceps through a corneal incision. Additional circumstantial evidence that the tumor was a cysticercus is furnished by the facts that (1) the boy lives in a small colony of about 900 Westphalian Germans near Chicago who eat quantities of uncooked pork in the shape of Westphalian sausage; (2) the local physician has treated 20 cases of tapeworm among these people within the year; (3) the community subsists almost entirely on vegetable or truck gardening, and all human fecal matter is used for fertilizer; and (4) the boy states that he often pulls up radishes and other vegetables by the roots, eating them after barely wiping off the dirt with his hands.

Drs. W. E. Gamble and E. V. L. Brown: "Further Report on the Case of Iritis Tuberculosis as Diagnosed and Treated by Koch's Tuberculin." One and three-fourths years of quiescence and unimpaired function have followed the six months' treatment which had resulted in the complete disappearance of two large tubercular iris-nodes; these had given repeated typical local reactions to tuberculin after failure of antisyphilitic treatment. The patient has gained 16 pounds.

Dr. W. H. Wilder:—"Tuberculosis of the Cornea." Case 1. Miss A. A deep central keratitis of the left eye responded promptly to ordinary treatment; six months later the lower part of the right cornea was attacked by a similar process and the keratitis soon complicated by the development of five or six small nodes in the adjacent iris. The disease progressed during the succeeding three weeks, despite doses of KI, increased to 50 grs. t.i.d.; 5 mg. of the old tuberculin gave a general reaction, though no certain local reaction could be identified because of the very marked ciliary injection already present; however,

the quiet fellow-eye gave a local reaction and tuberculous keratitis was diagnosed. Three months' use of the old tuberculin, beginning with a dose of 0.018 mg. and gradually increasing to 18 mg., resulted in a perfectly cleared cornea and 20/20 vision. Case 2. C. Y., aged 47. An infiltration of the middle layers of the cornea bordered by striae radiating between the adjacent lamellae had extended from the lateral quadrant to the central portion, with restoration of an epithelial defect. A diagnostic dose of 5 mg. of the old tuberculin gave a general but no local reaction. New tuberculin was then used therapeutically for seven months, beginning with 0.0018 mg., and increasing to 128 mg., with the result that good vision was restored; considerable opacity of the cornea remained.

Dr. Wilder exhibited 2 further cases, one of probably uveitis, hyalitis and cataract, and one of long standing "serous" iritis, both of which had given the general and local reaction. Dr. Wilder believes there is ample justification for doubt that general febrile and local reaction mean tuberculosis of the part.

Dr. H. B. Young, Burlington, Iowa:—"Tuberculin Injections in a Case of Retinitis, Probably Due to Cerebellar Tumor." A child of 10 developed an almost typical albuminuric retinitis during the course of the profound general disturbance; the latter greatly improved under four months' treatment with 1 mg. injections of the old tuberculin.

Dr. W. A. Evans (by invitation):—From his extended experience, Dr. Evans is firmly convinced of the reliability, safety and absolute necessity for the diagnostic use of tuberculin. He employs 5 or 10 mg. dose of old tuberculin after a week or so of careful study of the pulse rate and temperature four times a day; he gives the injection late at night that the period of greatest local and general reaction will occur during the following day time.

E. V. L. BROWN, *Secretary*.

CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY.

* A regular meeting was held Oct. 16, 1906, with the President, Dr. Otto T. Freer in the chair.

Dr. Otto T. Freer reported a "Case of Sarcoma of the Pharynx."

LYMPHOSARCOMA OF THE PHARYNX, LIMITING THE MOTIONS OF THE JAWS AND AXIS BY INVADING THE PREVERTEBRAL AND PTERYGOMANDIBULAR SPACES.

OTTO T. FREER, M.D.

CHICAGO.

History.—The patient was well until December, 1904. At this time he began to snore in his sleep and to have gradually increasing difficulty in breathing through his nose, so that in the course of some weeks he had to keep his mouth open at all times to breathe. His voice also at this time acquired the dead quality of obstructed nasal respiration and he gradually became somewhat deaf. He was first seen at the Chicago Polyclinic on Sept. 5, 1905. Posterior rhinoscopy at this time showed a pink growth with smooth surface arising from the vault of the pharynx and reaching downward until it almost rested upon the soft palate. Anterior rhinoscopy showed the nares to be clear. His hearing for the watch at this time was two inches for the right and three inches for the left ear. In spite of the suspiciously rapid development of this mass at a period of life when adenoid growths usually atrophy, its gross appearance so closely resembled that of a hypertrophied pharyngeal tonsil that it was deemed such and thoroughly removed with the pernasal forceps through the nose, perfect nasal respiration being established. The amount of tissue excised was great. Histologic examination of a microtome section of the excised growth showed nothing that could not accord with the diagnosis of a large fibrous hypertrophy of the pharyngeal tonsil.

Shortly after the operation the patient was lost from observation and was not seen again until Sept. 1, 1906, when he stated that nasal breathing had re-

mained perfect until two months after the operation, when the snoring and nasal obstruction reappeared, but never became as marked as before it. The removal of the growth was followed by a discharge from the left ear, which has existed ever since. There was no improvement in the deafness at any time. Since the operation he has had occasional nosebleed occurring about once in two weeks, the blood in some of these attacks flowing down behind the palate. In the few months preceding his second visit to the clinic he declined rapidly in strength and weight, and had headache with vomiting in the morning at times. In July he began to notice difficulty in opening his jaws and in swallowing, symptoms which have persisted with increasing intensity ever since.

The record of the examination of the patient to October 1 is as follows: Inspection of the oropharynx shows a bulging downward of the soft palate, evidently due to a mass resting upon it above. The posterior wall of the pharynx also bulges in a forward direction, so that it nearly reaches the velum palati, making posterior rhinoscopy impossible. Exposure of the parts behind the soft palate by raising it with a palate hook shows a portion of a soft pink, nodular tumor to the right of the median line, which extends out of sight up into the nasopharynx. The jaws can only be opened part of the way, being suddenly checked by a resistance when the incisors are five-eighths of an inch apart. The lateral motions of the jaw are also nearly arrested in both directions. Rotation of the head in the atlo-axoid joint is only possible to a slight degree, the head being turned by twisting the entire neck. Nutation is free. In order to palpate the naso-pharynx the patient's jaws had to be pried open with a gag, causing him some pain. The finger in the naso-pharynx feels a soft tumor nearly filling the post-nasal space and occupying the usual situation of an adenoid growth. Palpation of the posterior pharyngeal wall shows it to be carried forward by a soft elastic mass which bleeds freely when touched. The tumor can be indistinctly seen through the right naris in front, but it does not enter the nasal fossa, which are free. The pulse is rapid, 120 to 130 beats to the minute, and this frequency has been constantly found whenever the pulse was noted during the past month. The temperature when taken has been found to vary between normal and 100 degrees Fahrenheit. The pupils react normally to light and accommodation. The cardiac and pulmonary physical signs are normal, with the exception of persistent tachycardia unaccompanied by demonstrable cardiac dilatation.

Laryngoscopy is imperfect because the smooth bulging of the posterior pharyngeal wall prevents carrying the mirror far enough back for a good view into the larynx and the hindrance to the opening of the jaws adds to the difficulty. The motions of the left vocal cord may be faintly seen, while the right one is hidden by the epiglottis. An enlarged gland of the size of an almond may be felt at the angle of the jaw on the right side. The retro-maxillary regions are partly filled out by an indistinct swelling.

Vision is perfect, as proven by test types. There is no flushing of the integument of the ears and no salivation. Swallowing is somewhat difficult, the patient saying that he has to accompany the act with the inspiration of air, in order to make solid food go down. He drinks without trouble. The patient speaks with a voice characteristic of post-nasal obstruction.

Examination of the ears shows the right membrana tympani intact, but retracted, the light reflex being present. The membrana tympani of the left ear is destroyed, the malleus being seen above as a granulating stump. There is a purulent discharge from the left ear. Re-examination of the patient on October 9 showed that the lateral motions of the lower jaw had become free again.

Beginning on September 7, injections of adrenalin, 1 to 1,000, following the suggestion of Dr. John E. Rhodes,¹ were made three times a week for two weeks into the lower tumor where it was visible through the right naris, and upon lifting the soft palate. The total amount injected each time was from 10 to 15

1. Dr. John Edwin Rhodes, Transactions American Laryngological Assoc., Jour of the Amer. Med. Assoc., p. 430, Aug. 11, 1906.

minims. Because of the feeble general state of the patient and spells of giddiness which followed the injections, they have been temporarily suspended. The fact that the tumor has not grown during the past month and that the lateral motion of the jaw has returned may be due to the influence of adrenalin.

While, as mentioned, there was nothing typical of a sarcoma in the microtome sections made from the original growth in September, 1905, those made from the recurrence on the posterior pharyngeal wall a year later show tissue characteristic of a large-celled lymphosarcoma. There are some unusual features in the history of this case that make it more interesting than that of the average pharyngeal sarcoma.

While the latter, especially when of the large-celled type, though not as well defined as a benign tumor, is nevertheless apt to remain fairly circumscribed, and though growing into the tissues projects mainly from the surface, the tumor presented by this patient has a diffuse growth and infiltrates the deeper parts out of proportion to its very moderate encroachment upon the cavity of the pharynx. This infiltrative character of the tumor did not show itself until its return after removal a year ago, as the first appearance of the neoplasm, as described, deceptively resembled a large adenoid growth, had an entirely superficial character and occupied the site of the pharyngeal tonsil. On its recurrence the morbid growth not only reproduced in part the tumor in the naso-pharynx, but directed its growth into the posterior pharyngeal wall, in this respect also occupying a region favored by outlying portions of adenoid vegetations. The character of the tumor had, however, changed and instead of confining itself to the mucosa, as does a lymphoid hypertrophy, it entered beneath it deeply into the submucous and muscular tissues behind and at the sides of the pharynx. The depth to which it infiltrates this region is shown by the patient's inability to rotate his head freely, to open his jaws more than half-way, and by the fullness in the hollow behind the ramus of the jaw.

The limited rotation of the head is evidence of the penetration of the tumor to the vertebral column and is due to interference with the motions of the atlas-axis joint, possibly caused by infiltration by neoplastic elements of the anterior longitudinal ligament of the cervical vertebrae and anterior occipito-atlantal ligament, and anterior atlas-axis ligament. Interference with the functions of the rectus anticus major and minor muscles may also help to prevent the free turning of the head. Instead of rotating his head in the normal manner by motions upon the axis, the patient twists his whole neck around when he turns his head, bringing all of his cervical vertebral column into play to take the place of the rigid atlas-axis joint, and using the sterno-cleido-mastoid muscles, which ordinarily do not contract when the head is rotated.

The difficulty in opening the jaw was caused by invasion by the growth of the raphe between the superior constrictor of the pharynx and the buccinator muscles, and by the mechanical interference by the tumor with this tendinous band, which extends between the pterygoid process and the lower jaw. Palpation shows the tension on this raphe when the jaw is opened. The inability to open the jaws is also in part due to infiltration by the tumor of the internal pterygoid muscles, or inflammatory processes excited in them by its presence as it fills the pterygo-mandibular fossa in which these muscles lie, external to the superior constrictor of the pharynx. An inability to open the jaw is not infrequently seen in carcinoma of the tonsil, palate or tongue, but is then usually due to a different cause, namely, the infiltration by carcinomatous tissue of the mucous membrane fold which passes from the sphenomaxillary fossa in the region of the hamular process to the angle of the lower jaw, and is called by Mikulicz the intermaxillary fold. This fold is intact in the case presented, but the infiltration involves the internal pterygoid muscles immediately behind it.

The temporary inability to move the jaw laterally was probably due to transitory myositis and rigidity of the external pterygoid muscles caused by the irritating mechanical presence of the tumor in the pterygo-mandibular fossa. A number of cases of inability to open the jaw from affections of its muscles, especially of the masseter and temporal muscles, are reported, the cause, however,

being interstitial myositis unconnected with a tumor. The patient's difficulty in swallowing solid food can be accounted for by interstitial invasion of the superior constrictor of the pharynx by the growth, for the latter does not obstruct the cavity of the pharynx enough to interfere especially with deglutition, although it somewhat overhangs the larynx.

For the symptom of constant and unvarying tachycardia presented by the patient, I have found no explanation. It is not likely that it is due to pressure of the tumor upon the superior cervical ganglion of the sympathetic nerve, which lies in the region invaded by the tumor behind the superior constrictor at about the level of the hard palate, for authorities agree that this ganglion furnishes no fibers to the accelerator nerve of the heart. Stimulation of the superior cervical ganglion mechanically would produce pallor of the side of the face involved, salivation and dilatation of the pupil. Suppression of its function would produce myosis and flushing of the skin of the ear on the affected side. None of these phenomena are present and the pupillary reflex is normal, so that the classical evidences of interference with the cervical sympathetic by the tumor are absent. The tachycardia can not be explained on the ground of vagus paralysis, for if this were its cause there would be paralysis of the vocal cords, or at least posticus paralysis due to interference with the function of the recurrent laryngeal nerves, which at this level are contained in the vagus trunks. The diffuse and deep nature of the tumor makes it obviously inoperable, and therefore it seems proper to resume the injections of adrenalin or to adopt some other palliative treatment.

The histologic nature of the neoplasm is in accord with its location, for its development has occurred in regions normally subject to hypertrophies of lymphoid tissue, the region of the pharyngeal tonsil and its outlying collections of lymphatic follicles upon the posterior pharyngeal wall, only in this instance instead of producing a benign hypertrophy the lymphoid cells have acquired a malignant tendency and penetrate the normal tissues. They may be seen collected in aggregations of large cells of a typically lymphoid appearance, these collections being contained in a wide-meshed connective tissue reticulum, showing typical spindle cells in places. The lymphoid cells possess each a number of processes.

In conclusion I return thanks to Dr. John Gordon Wilson, of the department of anatomy of the University of Chicago for his valuable advice concerning the anatomical points involved, and to Dr. S. A. Mathews, of the department of pharmacology of the University of Chicago, for suggestions and assistance in looking up the physiologic questions.

DISCUSSION.

Dr. John Gordon Wilson:—After the very full and instructive report made by Dr. Freer, little remains to be added. Yet there are one or two points in the paper that I wish to emphasize. First, in regard to the swallowing. The boy swallows liquids easily, but solids with difficulty. This accords with the position of the tumor. As you are aware, the physiological act of swallowing liquids involves the "force-pump" action of the anterior muscles of the tongue, the styloglossus, the mylohyoid, and the hyoglossus. These lie anterior to the tumor and are not affected. The pharynx and the esophagus are not actively engaged in the swallowing of liquids, and along these passages liquids pass very rapidly. This is seen when a child swallows a corrosive poison; the charring action is observed, not in the pharynx or esophagus, but on the mucous membrane of the tongue, anterior to the pillars of the fauces, and at the cardiac orifice of the stomach. The physiological act involved in swallowing solids is different from this. The solids are grasped during the second act of deglutition by the muscles of the soft palate, by the pharyngeal muscles, and by the esophageal muscles. Therefore, the localization of the tumor easily explains why the boy can so painlessly swallow liquids, and yet have difficulty in swallowing solids.

With all Dr. Freer has said in regard to the inability to open the mouth, I quite agree. I would add but one other point: The mouth is opened by the

depressors of the jaw. But at the same time there is an inhibition of the muscles that close the jaw. In this case I suspect that we have to do with irritation of some of the elevators of the mandible, e. g., the internal pterygoid muscles, resulting in deficient inhibition as well as stiffening of muscles.

Among the many outstanding features in this case, the persistent rapidity of the heart is not the least interesting. In a case such as this, one can only, and may with advantage, theorize in regard to the probable cause. Dr. Freer has discussed among others a possible relation to stimulation of the sympathetic or to paralysis of the vagus. I cannot agree with Dr. Freer that acceleration of the heart beat comes only from stimulation of the sympathetic at the lower cervical ganglion, though that is the usual text-book account. I think he will find that cases have been recorded in which stimulation of the sympathetic nerve in the neck has produced acceleration of the heart. But the sympathetic is evidently not involved in this case. The absence of eye symptoms seems sufficient to prove this, unless one were to assume a selective action of the tumor on the sympathetic nerve fibers or pressure of a gland on the accelerating fibers.

Involvement of the vagus would also result in acceleration, but as Dr. Freer has pointed out, many arguments speak against this hypothesis. Those which occur most readily to us are (1) non-involvement of the recurrent laryngeal, and (2) to get such a persistent rapidity in animals implication of both nerve trunks is required. With some bearing on the latter of these objections, one noted on examining the pulse to-night how little variation occurs in its rate during sleep and slow respiration, as compared with the normal pulse. Whether this was temporary or is a persistent phenomenon would require more careful looking into than we could give at this meeting.

Dr. J. Holinger:—I would like to ask Dr. Freer whether he can tell us why so much more has been published in this country about sarcoma of the pharynx than in other countries? Mikulicz gives that fact prominence in his publication in Heymann's hand-book.

Dr. J. E. Stubbs:—I would like to ask Dr. Freer why he used adrenalin, and whether he has considered the erysipelas toxins? Have they ever been used in a case such as this one?

Dr. Edwin Pynchon:—I have been particularly interested in this paper, as I recently had under treatment a case quite similar, a man about 47 years of age, where the tumor had only been noticed for about six months. There was particular involvement of the submaxillary glands, but this was at first supposed to be an ordinary enlargement. There was the same difficulty in turning the head, the same acceleration of the pulse, and the same general weakness. I had Dr. Rhodes see this case with me, and acting on his suggestion I used adrenalin. Its use generally produced faintness after injections, particularly the first. The temperature was nearly normal, but the pulse beat ran up to 140 at times. I removed portions of the growth by igni puncture, and there was absolutely no reaction. I am inclined to believe had the patient been stronger that it might have been possible to entirely destroy the growth in that way. Examination showed the tumor to be a carcinoma.

Dr. Joseph C. Beck:—About two months ago, in the *Internat. Centralblatt der Orenheilkunde*, Bayer published a number of experiments with the use of adrenalin on animals. After the injection of very small amounts of adrenalin he noticed a change, an atheromatous condition, in the large vessels, and also in the coronary artery. Might there not be something of that kind going on in the vascular supply of the heart, and account for the action of the nerve plexus supplying the heart, and thus causing the tachycardia? I would like to ask Dr. Freer whether the tachycardia existed before he used the adrenalin?

I also wish to sound a note of warning. Three weeks ago I saw a patient in the hospital who had a normal temperature, but a very rapid heart, following an appendectomy. I suggested adrenalin to reduce the heart action. I injected ten drops of a 1/1,000 solution, and repeated the dose in half an hour. The pulse showed quite markedly, so much so that stimulants had to be used. The slowness of the heart persisted for about three days.

In regard to the immobility of the jaw, I have in mind three cases of retro-maxillary sarcoma in which that symptom was quite marked. The tumor in those cases was lodged in the sphenomaxillary fossa. The x-ray might be suggested in the treatment of these cases.

Dr. S. A. Friedberg:—Might it not be possible that this increased heart beat could be due to secondary anemia, or to the absorption of toxic products from the growth itself?

Dr. Freer (closing the discussion):—I spent much time in looking up a possible connection between the superior cervical ganglion and the accelerator nerves of the heart, but found no mention of such a relation in such books and writings as I reviewed. The literature on the physiology of the nervous system is, however, so vast that perhaps a still further search might have divulged some information.

Dr. Holinger's reference to a possibly greater frequency of sarcoma of the pharynx in America than in Europe is interesting. It would of course take elaborate compilation of cases from the literature to prove the point.

Dr. Stubbs asked concerning accounts of the employment of the toxins of erysipelas toxins in cases of pharyngeal sarcoma. I found no reference to their use in this particular class of cases in the literature I reviewed. The method of treating sarcoma with erysipelas toxins has been on trial for many years now and had it proven at all reliable it would surely by this time be the standard treatment of the disease. Instead of this it seems to be falling into disuse. I am glad that Dr. Stubbs has made the discussion more complete by referring to it.

Dr. Pyncheon's experience of faintness after the injection of adrenalin agrees with mine in this case.

Dr. Beck suggested that the adrenalin might have caused the increased frequency of the pulse. This is not the case, however, for the rapid action of the heart existed before its use. I am aware of the experimental production of arteriosclerosis with adrenalin injections, but according to Dr. Rhodes' very complete review of the subject the dose employed in this case was far below that likely to produce this state.

Dr. Friedberg has asked the theoretical reasons for the reported effect of adrenalin in producing shrinkage of some sarcomata. I am not aware that histologic examinations of such tumors during the process of reduction have been made. The ready tendency to degeneration and absorption of certain types of sarcoma under conditions interfering with their nutrition is well known, and possibly in some such way, perhaps by limiting the blood supply, adrenalin has led to reduction of the neoplasm in the successful cases reported. Certainly in my case the drug has had no evident effect, but this may be due to the diffuse nature of the growth.

Dr. Wilson's contention that after all the tachycardia may be due to some inhibition of the control of the heart by the vagus nerves seems reasonable, for it may be, as he suggests, that there has been a selective interference with the function of those fibers of these nerves which slow the action of the heart. I appreciate the superiority of Dr. Wilson's knowledge in regard to the anatomical questions involved in this case.

Dr. Joseph C. Beck exhibited a case showing "The Result of Anastomosis Between the Facial and Hypoglossal Nerves."

CASE I. PAPILLOMA OF THE LARYNX IN A CHILD.

Theresa A., 5½ years old; hoarseness for about six months, which is gradually increasing. An embarrassment in respiration, particularly inspiration. The last three weeks this latter condition getting rapidly worse, so that at the time of presentation the child breathes very hard and labored, getting blue and perspiring, especially when sleeping. There is no history of any inflammatory condition or infectious disease previous to the development of this condition; no history of lues, tuberculosis or malignancy in family, and no signs about the child of anything suggestive of such conditions. She is one of thirteen healthy living children.

Examination.—A fairly well-nourished child, with negative findings in the nose, naso-pharynx and oropharynx. Laryngeal examination was almost impossible, but by the Kirchstein method one can see an infantile appearing epiglottis and some kind of an irregular growth closing the rima glottis. No marked inflammatory signs surrounding this condition. The x-ray reveals nothing, and the chest examination, as well as the rest of the body, blood, urinalysis, negative. Three days and nights' constant observation at the hospital show the condition of choking rapidly increasing, and this demands some kind of interference.

Having in mind the probable diagnosis of a papilloma of the larynx, and having looked up literature on the subject, I came to the conclusion that it would be best to do a tracheotomy and observe the patient. This was done about four and one-half months ago, with the result of complete cessation of the obstructive symptoms and an uneventful recovery from the tracheotomy.

It has been stated positively by several writers, particularly L. N. McCreery (*Laryngoscope*, June, 1906), also Wilson and J. Payson Clark, that the simple procedure of tracheotomy sufficed to bring about a disappearance of this pathological condition, and upon these authoritative statements I expected similar results. I am therefore very happy to state that this growth is rapidly diminishing, and I wish to show it at this time in order that at a future period, when a complete cure has been established, we might be better able to judge than if I were to show the case when absolutely cured.

I would be very happy if some gentleman, who may have had similar experiences, would state as to the length of time the tracheotomy tube may be left in place, for it certainly causes a certain amount of irritation which is bound to cause a stricture of the trachea.

CASE 2. FACIAL HYPOGLOSSAL ANASTOMOSIS.

Miss H., whom I presented to you last May, and reported her case in full in the *Laryngoscope* (August 1906), owing to the unusual pathological condition of the temporal bone, I again present this evening, to show the result of a neuroplastic operation for the cure of a facial paralysis which resulted from the absolute necessity of removing all the necrotic bone involving the labyrinth. She is completely relieved of all her labyrinthian symptoms and severe headaches from which she suffered greatly before her first operation. Since I destroyed so much of the continuity of the nerve, I did not expect any regeneration of the facial nerve, consequently did not wait any longer than six months to do this plastic operation. It is now four and one-half months since this last procedure.

Technic of Operation.—Usual preparation, general and local.

Instruments.—Knives, artery forceps, Allport's retractors, Kocher's director and simple grooved director, anatomical forceps, tissue forceps, four strabismus hooks, two lid retractors, one slender curved scissors (enucleation), one blunt-pointed slender knife, fine round-edged needles, fine silk, needle holder, large needles for skin and other suture material.

Operation.—1. Incision, retroauricular from about the middle of the auricle downward and forward along the anterior border of the sterno-cleido-mastoid for about four inches.

2. Dissect up the skin and subcutaneous tissues.

3. Bluntly to the posterior border of the parotid gland.

4. Locate entrance of facial nerve into the gland.

5. Dissect nerves back to stylo-mastoid foramen.

6. Locate internal jugular vein under anterior border of the sterno-mastoid muscle.

7. Locate posterior belly of digastric muscle, loosen this up and retract upward.

8. Loosen interior jugular vein and retract anteriorly.

9. So expose the hypoglossal nerve. It appears here in its forward course.

10. Follow it toward the tongue to be sure.

11. Remove all the sheath covering it at its nearest point to the facial.

12. Place sponge dipped in normal salt solution over this area and attend to the facial nerve.

13. Grasp the facial nerve and use gentle traction, as though you wished to pull it from the stylo-mastoid canal.

14. With the curved slender scissors or blunt-pointed knife cut the nerve as high as possible in the canal.

15. Trim up this cut end into a sort of a point, so that the axis cylinders protrude from the nerve sheath.

16. Apply ligatures, principally through the sheath, two in number, through this pointed nerve end.

17. Make a small longitudinal slit, one-quarter inch long, into the hypoglossal nerve sheath at the point where the facial nerve stump will fit in without any tension.

18. Separate the lips of this slit in the hypoglossal by means of a tissue forceps, and implant the facial nerve stump into it in such a manner that it is turned upward to meet the central fibers of the hypoglossal, or, rather, to get the stimuli that come directly from the brain.

19. Suture the facial nerve stump to the sheath of the hypoglossal, using very little tension on the sutures, because strangulation is liable to follow.

20. One suture of the perineural areolar tissue of the hypoglossal is made over this anastomosis.

21. Reapplication of the structures to their normal positions.

22. Close the skin wound without drainage.

The above steps were carried out within one hour and twelve minutes, including the anesthesia (nitrous oxid, followed by ether). I was kindly assisted by Dr. M. A. Goldstein of St. Louis, Dr. Flemming of Los Angeles, and Dr. Owen of Chicago.

Primary contraction and reaction of the paralyzed side of the face followed the first twenty-four to thirty-six hours, but disappeared afterward. Otherwise primary union and normal recovery took place, except a partial paralysis of the tongue and some little difficulty in swallowing.

No improvement could be seen for several weeks as to the motion of the face. The patient declared as early as the third week that she felt that side of the face getting stronger and food did not lodge in the inner side of her cheeks as often as before. The seventh week I found some contraction of the lower lip, a distinct crease, very similar to the normal condition. Three and one-half months after the operation patient noticed while swallowing that the face moved on the paralyzed side, and since then has acquired the habit of controlling this movement, and somewhat disassociating it, so that she may either contract the face when swallowing or swallow without contraction. The muscles of the eyelid and forehead have not yet recovered very much, although somewhat improved. One would not recognize the facial paralysis of this patient unless she were asked to close the eye or laugh. General tonics of strychnia and iron, exercises, massage and electricity have been continued constantly three to four times a week.

Gentlemen, I hope I may be pardoned for presenting this case before an entire cure has been effected, but I shall present her with another similar case at some future time, when I read a paper on the subject. Suffice it to say at this time, that quite a number of cases are on record of neural plastic operations of the facial nerve, and that at the present time the hypoglossal is chosen in preference to the spinal accessory or glosso-pharyngeal nerves. Stewart and Ballance, Taylor and Clark, Cushing and Fourret are the principal writers on the subject, and they all report successful results.

DISCUSSION.

Dr. John Gordon Wilson:—This is certainly one of the best results I have seen of hypoglossal and facial anastomosis. The cases which one sees most often are anastomosis of the facial and spinal accessory. Nerve anastomosis is a most interesting problem, and if one were to get good results in all cases of this kind one would be more inclined to make a more radical cleaning out of the diseased

area in mastoid disease. As you are aware that there are two nerves to which the facial has been sutured, the spinal accessory and the hypoglossal. Dr. Beek chose the latter. It might well be asked, What are the relative advantages of these two methods of procedure? The disadvantage of all such operations has been the lack of coördinate movements of the muscles primarily supplied by the two nerves; thus a contraction of the trapezius becomes associated with a facial spasm. Now it has been urged that as there is a closer association of the cortical centers for the face and tongue (seven to twelve nerves), as well as a closer proximity of these centers in the bulb, therefore a re-education of these centers to correct non-coördination will be more easily affected than with the further removed centers of the spinal accessory and the facial.

In favor of the spinal accessory, there is the facility with which it can be reached and the ease with which it can be sutured to the facial. It would be out of place now to discuss the relative merits of the two operations. So much depends on an intelligent after-treatment, recognizing that the systematic application of an electrical current is but a small part of the "re-education" that has to be done. I am still inclined to believe that a careful separation of nerve bundles for some slight distance previous to suturing assists here, as I have found it do elsewhere. If this be so, we will probably return to the anastomosis of the seventh and spinal accessory.

On account of the many interesting points which center round the subject of nerve anastomosis, we are especially indebted to Dr. Beek for presenting the case at this stage, and I trust that we may see it from time to time, in order to watch its progress.

Dr. Beek (closing the discussion):—So far as splitting of the nerve is concerned, that is what I tried to avoid, because if the fibers are cut, paralysis is bound to result. In those cases where the spinal accessory is sutured to the facial, end to end, there has been permanent paralysis of the shoulder, and this is not without embarrassment.

As far as the dressing is concerned, the patient was put in a plaster cast, and was kept in one position during the time the suture was allowed to remain in the wound. There was no trouble after the operation except a little difficulty in swallowing, which lasted for twenty-four hours. A silk suture was placed in the nerve and allowed to remain there.

Dr. J. Holinger read a paper on "The Bier Treatment in Diseases of the Ear, Nose and Throat."

DISCUSSION.

Dr. Frank E. Brawley:—The paper Dr. Holinger overlooked appeared in the *Archives of Otolaryngology*, and was written by Kopetzky, who is very conservative in his deductions. In the acute cases the treatment was distinctively favorable, but in the chronic cases he gets no results. When he does not get results in forty-eight hours he abandons the treatment and uses the ordinary operative method. Polyak's method is very superficial and does not give credit to Sondermann or Spiess. In my experience chronic cases were not benefited. The apparatus I use for suction, in addition to the attachment to the Pyncheon pump, is a very simple arrangement, and that is the ordinary suction pump used by chemists for separating solutions. The principle is the same as that used by Dr. Holinger. It can be attached to any water-tap, and the same attachments devised for the Pyncheon pump can be used. In one case I used the Bier bandage, and that patient told me that it was not a new treatment at all. He had at one time been adopted into a tribe of Indians, and when anyone had a cold the squaws would constrict the neck of the patient for about twenty minutes; then give him a sweat bath and then another constriction, which ended the cold.

Dr. Joseph C. Beek:—I have had the same experience with the Bier treatment. In Bier's last book he speaks at great length of the action of the treatment on the tubercle bacillus. Increasing the leucocytosis and the absorption of pathologic products is the main thing. I have applied this treatment in many cases. One patient came to me with a band around his neck. It was a case of subacute otitis media, supplemented with decided involvement of the mastoid process and

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a little pin-point opening and a nipple-like projection, all indications for operation. I sent the patient back to his doctor, and suggested that a large incision in the drum would help the treatment. This was done and the patient improved a great deal, although a chronic discharge continued. A case of acute otitis media involving the mastoid I treated by putting a band around the neck of the patient, but he did not get along very well. When I finally operated. I found a marked necrosis. I think that Bier's treatment is limited to acute diseases in the middle ear or nasal cavity, but in chronic conditions it has no place. I believe that the case of unconsciousness Dr. Holinger described may have been due to an intracranial hemorrhage.

Dr. Holinger (closing the discussion):—The Bier treatment has undoubtedly come to stay. If you constrict the limb of an animal and inject an absolutely fatal quantity of strychnin, leave the leg constricted for twenty minutes, and then release the constriction, the animal will not be affected by the strychnin. Fatal doses of other kinds of poison, like tetanus toxins, etc., can be injected into a constricted limb in like manner. Dr. Schirmer performed some very interesting experiments in this connection. He drew some blood serum from a constricted limb and allowed it to be taken up by a piece of sugar. While that sugar is still wet he puts a match to it, and it burns with a strong flame. He explains this by saying that some kind of a substance forms in the constricted limb, which acts like a catalytic element and helps to transmit the oxygen in the blood to any kind of poison, and in this way helps to render the poison innocuous by oxidation. As to Dr. Beck's patient, as soon as I spoke of an operation, he left me. The thing I wish to bring out is the danger of constricting the neck in cases of tubercular laryngitis in any case. I did not see any favorable results, but much harm from it. Constriction is a very excellent one in acute cases.

CHICAGO SURGICAL SOCIETY.

A regular meeting was held Nov. 2, 1906, with the President, Dr. D. W. Graham, in the chair.

CARCINOMA OF THE FACE.

Dr. Nicholas Senn showed two cases illustrating very extensive carcinoma of the face. Both men were not far advanced in years—35 to 45—and were the subjects of two pathologically distinct forms of epithelioma and carcinoma. He described the operations that were done in each case. He found in neither of the cases any indications of glandular involvement, although both patients had suffered from carcinoma from twelve to fifteen years. There is no indication at present of any glandular involvement, and this encouraged him to perform desperate operations followed by extensive plastic procedure. He emphasized the damage that was done at times by the removal of such growths by the use of caustics. This method of treatment added fuel to the fire, in that it invariably aggravated the disease, exaggerated its growth, promoted its extension, and as a method of treatment no thoughtful surgeon would resort to it at the present day. The *x*-ray produced only temporary beneficial results in these cases. Dr. Senn had not seen a case of genuine carcinoma yield to *x*-ray treatment.

LIPOMATOSIS OF THE KIDNEY.

Dr. Daniel N. Eisendrath reported the case of a man, 28 years of age, a conductor, who entered his service at Cook County Hospital, August 6, of the present year. Eleven years ago the patient was operated on for perinephric abscess, since which time the sinus had discharged continuously. Eight months before his entrance to the hospital he began to have tenderness of several joints, which bore no important relation to the present condition. At the time he first saw him he had a sinus, opening at about the center of the present nephrectomy incision. He injected methylene blue into it before operating, with the hope of following up the sinus, but on account of the rigid walls he was unable to follow it any distance. He made an incision and came down upon an

immense amount of cicatricial tissue, so that he was puzzled at first to know where to find the kidney in the midst of the cicatricial mass. He lost track of the sinus at one time, but found it again. It led to some hard bodies which were evidently calculi. He proceeded to enucleate inside the cicatricial mass what he thought was the kidney, but when he brought it up toward the surface he found it was a mass of fat which had the shape of the kidney, and he found upon laying it out that it had exactly the shape of the kidney.

On section of this mass it showed the remnants of the original fetal lobulation of the kidney—seven divisions by the fibrous septa radiating from the pelvis. The specimen showed in an excellent way the change of what is known as lipomatosis of the kidney or fatty transformation of the kidney as the result of chronic suppuration. The pedicle did not bleed, so that it was not necessary to ligate it. Remnants of the pelvis of the kidney could be seen.

RUPTURE OF THE KIDNEY.

The second case reported by Dr. Eisendrath was one of unusual form of traumatic rupture of the kidney. The patient was 32 years of age, and was admitted to the Eclectic Surgical Service of the Cook County Hospital on the night of Jan. 5, 1906, with the following history: He had slept in the police station all night, having been intoxicated, and could give no history of injury at the time. Later, when he came to his service, he learned from the patient that he had fallen across a 2x4 board, striking across the kidney region. The patient was admitted to the Eclectic Service on account of a severe hematuria. The urine was not only markedly tinged with blood, but contained considerable blood for about two weeks. He was admitted on January 6, and on January 9 another surgeon made an incision over the kidney and found that the kidney was torn from the cortex directly into the pelvis, and there was an extravasation of blood and urine in large quantities around the kidney. He came to his service in May, five months after the original nephrotomy, on account of a sinus, from which urine and pus were being discharged. He made an incision and reached a large cavity about the size of a child's head. He could find no traces of kidney tissue. He tried to dissect it out in different directions to see whether he could find any trace of kidney tissue, and in one or two places he got small pieces of kidney tissue. The rest of the kidney had been destroyed by suppuration following the accident, or as the result of the original trouble. The specimen showed that the kidney had been destroyed, with the exception of the pelvis and the ureter, which he removed at the time. Following the original operation, the sinus did not close, and he opened it a second and third time, and then removed small fragments of kidney about the size of a walnut or a little smaller. After the second removal the sinus healed, and the patient recovered.

DISCUSSION.

Dr. Maximilian Herzog said the case of Dr. Eisendrath was one of lipoma, and did not show any remnants of the kidney at all. Aside from the areolar (fatty) connective tissue, there were some traces of old hyaline connective tissue, but no remnants of kidney tissue. These cases, as a rule, should really not be spoken of and classified as lipoma of the kidney, because this is not a correct pathological classification. They are not true lipomata, nor true fatty tumors, but simply a hypertrophy of the perineal fatty tissue.

COMPOUND FRACTURE OF THE PATELLA TREATED BY CATGUT SUTURE.

Dr. E. J. Senn reported this case in order to emphasize the point that radiographs often create a wrong impression. In studying the first radiograph, taken before the operation, it was difficult to make out four different fragments. He was positive as regards the diagnosis of comminution of the patella, but if one were to make a diagnosis by looking at the radiograph he could not do so. The second radiograph, taken about ten days after operation, showed that healing had taken place. It showed very good approximation of the supposed two fragments, but in reality there were four separate fragments. Union was very good. He did not think there was absolute bony union, but periosteal union.

Bony union was the exception in these cases. He emphasized the point that union took place quite readily, provided the wound was aseptic, and if there was perfect approximation of the fragments without much tension.

THE NECESSITY OF COMBINING WITH GENERAL SURGICAL TREATMENT OF INFECTION,
VACCINE THERAPY AND PASSIVE HYPEREMIA.

Dr. John C. Hollister said in order to secure the best results in general surgical work to-day, one must combine: 1. The most approved methods of surgical technic. 2. Vaccine therapy, such as has been of late made practical by the work of A. E. Wright of London. 3. The working methods of hyperemia, as have been so strongly advocated by Bier of Bonn, and many others. In other words, in order to do the most good in the shortest time for the patient, the general surgeon must use one, or a combination of two or all of these different lines of treatment, depending upon the nature and stage of the affection. This statement represents the firm conviction of Dr. L. L. McArthur and the author, and is based upon the following facts:

1. The whole modern trend of the therapy of infection is toward immunization or helping the organism to resist and overcome bacterial insult by strengthening and adding to the so-called antibodies. This is evident to all, and need not be discussed, except to say that when we consider the fact, so often neglected, namely, that the surgeon can in absolutely no case of infection remove the whole of the irritant (unless possibly within the instant of time after the original insult), and that it is only due to the fact that the organism is able by mechanical and chemico-physiological means to meet, combat and throw off this irritant, that the restoration to health is possible; then it is that we see the necessity of adding to the sum-total power of resistance by helping this body to have more mechanical and more chemical physiological resistance. One can not but think after reading Bier's book on hyperemia as a therapeutic agent, and his reports of cases, and then studying Wright's work, that the former represents the mechanical and the latter a certain part of the physico-chemical factors, and that possibly the value of the former really depends upon the fact that Bier's methods intensify localization of these physico-chemical resisting elements by flooding areas otherwise barren in these elements.

2. Wright has developed to a definite practical working basis the use of "vaccines" for tubercular, staphylococcic and streptococcic infections. He has developed a clean-cut laboratory technic whereby one can in most cases not only diagnose the individual infection, but can accurately judge the effect on the patient of the vaccine given him from dose to dose. By so doing he has been able to accomplish results of which you have all heard and read.

3. We have earned a favorable outlook in this opsonic work by our own experiments. Just how far we are as yet justified in announcing actual favorable results will appear in the discussion of cases reported.

4. The results reported by Bier and many others throughout Germany, especially at the Surgical Congress in Berlin last spring, from the use of active and passive hyperemia, especially in the so-called surgical infections, are good.

5. Our own results in a number of selected cases treated by passive hyperemia have been as a rule, excellent.

Dr. Hollister described Wright's working technic for estimating the opsonic index in normal and pathological blood, and his vaccine therapy in general. He likewise reported on the beginnings that Dr. McArthur and he had made in the laboratory at St. Luke's Hospital during the last six weeks.

After detailing a lot of experiments, Dr. Hollister said that the value and necessity of vaccine therapy to the work of the general surgeon are assured, because (1) we can diagnose the specific infection by observations of the opsonic index, and this without administration of any vaccine whatever. (2) We can raise and maintain this opsonic index to a point as high as, or higher than, that of the normal individual by the properly sized and the properly interspaced doses of the specific vaccine. (3) When we do raise and maintain

it, we add to the resisting power of the patient's serum, and hence the tendency of the patient is toward recovery. (Dr. Hollister's interesting article will be found published in full in the December issue of *Surgery, Gynecology and Obstetrics*.)

Dr. E. P. Cook, of Mendota, Ill., reported a case of parovarian cyst which was complicated by intestinal obstruction and gallstones in a woman 90 years of age. The parovarian cyst contained a gallon of fluid. The patient recovered.

CRAWFORD COUNTY.

The Crawford County Medical Society met in regular session at the office of Dr. I. L. Firebaugh, in Robinson, Thursday, Jan. 10, 1907, at 2 p. m. There were present Drs. I. L. Firebaugh, T. N. Rafferty, Frank Dunham, L. R. Illyes, J. A. Ikemire, J. W. Carlisle, A. Lyman Lowe and H. N. Rafferty. Dr. A. Lyman Lowe, who has just finished his hospital internship in Chicago, and who will shortly locate in Robinson, was proposed as a candidate for membership. On motion, the rules were suspended and Dr. Lowe at once elected a member of the society. The paper of Dr. J. E. Midgett on "Epilepsy" was read by Dr. Frank Dunham. Dr. Midgett presented this subject in a very interesting and instructive manner, and the discussion following was general.

Dr. T. N. Rafferty reported a case of direct inguinal hernia in an infant of three weeks, and its successful retention with the "hank of yarn" truss, as recommended by Coley. This case was interesting from the standpoint of heredity, as the mother, five of her brothers and sisters and an uncle were all hernia victims.

On motion, the secretary was instructed to collect the "per capita assessment" of the Illinois State Medical Society at each annual meeting of our County Society in July. The secretary reported 24 members in good standing for this year, and three former members dropped for non-payment of dues. Dr. Dunham offered a resolution to combine the offices of secretary and treasurer, in order to facilitate the work of properly conducting the affairs of the county society, in its relations with the state society. This requires a constitutional amendment, and must be voted on at the next regular meeting. It was moved and carried that the chairman appoint a committee of three, to collect in writing the changes made in our constitution and by-laws from time to time, and to embody the same in their report at the next regular meeting of the society. After many interesting case reports and the discussion of the same, the society adjourned, to meet the second Thursday in March, in the audience room of the Carnegie Library, in Robinson.

H. N. RAFFERTY, *Secretary*.

FULTON COUNTY.

The thirty-sixth annual meeting of the Fulton County Medical Society met in the Churchill House in Canton, and was called to order by President Chapin. Minutes of the annual meeting were read and approved. Shallenberger and Coleman moved that the secretary cast the vote of the society for Dr. Strode as member of the State Legislative Committee. Carried. A vacancy on the board of censors having been caused by the removal of Dr. Nelson from the county, Coleman and Regan moved that the secretary cast the vote of the society for Dr. Scholes to fill the vacancy. Carried. On the applications of Drs. Putman and Boynton for membership, Shallenberger and Regan moved that the secretary cast the vote of the society in favor of admission. Carried. Sutton and Shallenberger moved a hearty endorsement of the ILLINOIS MEDICAL JOURNAL, and commended the present staff of editors for their unexcelled management. Carried. Coleman and Regan moved that the future programs contain at least seven numbers. Carried. The authors of the various papers failing to attend, the

balance of the afternoon was taken up in discussing various topics. A case of exophthalmic goiter was reported by Dr. Shallenberger, and was discussed by Drs. Hays, Scholes and Chapin. A case of gonorrheal ophthalmia in an adult was presented by Dr. Regan. Dr. Chapin reported a case of rodent ulcer of the nose. Discussed by Drs. Shallenberger and Coleman. A case of inflammation of thumb, which was very resistant to treatment, was presented by Dr. Nelson. The case was discussed by all present, and there was considerable variation of opinion as to the nature of the case. Dr. Parker presented a very interesting paper on pneumonia. Discussed by Drs. Sutton, Shallenberger, Nelson, Scholes and Chapin. The president appointed Drs. Shallenberger, Sutton and Nelson as program committee, who reported the following program for the next meeting: Smallpox, Dr. Ewan, Smithfield; Membranous Croup, Dr. Nelson, Bryant; Ulcers of the Lower Extremities, Dr. H. H. Rogers, Cuba; Hereditary Syphilis, Dr. Stoops, Ipava; Malaria, Dr. Blackburn, Breeds; Operative Appendicitis, Dr. Cluts, Ellisville; Selected, Dr. Murphy, Cuba. The next meeting will be held May 7, 1907.

D. S. RAY, *Secretary*.

HANCOCK COUNTY.

The Hancock County Medical Society met in Warsaw, Monday, Jan. 7, 1907. This society was entertained by the members of the profession at Warsaw. The program included a paper on Rheumatism in Children, by Dr. F. M. Fuller of Keokuk, Iowa; Some Conservative Surgery of the Female Pelvic Organs, by F. B. Dorsey of Keokuk; an Address, by Dr. G. W. Jones of Keokuk, and Report of a Case, by Dr. S. M. Parr of Ft. Green, Hancock County. The officers of the society are: Dr. S. M. Parr, president; Dr. R. B. Roberts, vice-president; Dr. C. L. Ferris, treasurer, and Dr. William Blender of Carthage, secretary.

MASSAC COUNTY.

The Massac County Medical Society met Jan. 10, 1907, and elected officers for this year. Our annual election has heretofore been in June, but will hereafter be in January. The following officers were all re-elected for 1907: President, M. H. Trovillion; vice-president, A. E. Miller; treasurer, J. A. Orr; secretary, A. C. Ragsdale. Executive Committee, S. J. Elmore, A. C. Ragsdale. Board of Censors, R. H. Jacobs, C. E. Trovillion and W. S. Dixon. Our society has only fifteen members, but we meet on the second Thursday of each month, and much interest is shown and good results obtained.

A. C. RAGSDALE, *Secretary*.

MERCER COUNTY.

The Mercer County Medical Society met in Aledo, Ill., Monday, Dec. 10, 1906, on special call to consider what action should be taken in regard to an article which appeared in the *Times-Record*, a newspaper published in Aledo, purporting to be a resolution passed by the Mercer County Druggists' Association. The resolution passed by the Mercer County Druggists' Association is as follows:

We are in favor of the enactment of a law by the Illinois General Assembly, at its next session, which shall prohibit the dispensing and sale of drugs and medicines by other than licensed pharmacists or by registered assistants under their immediate supervision.

We believe that the practice of dispensing medicines and drugs by physicians who are not registered pharmacists, as a rule, is detrimental to the public health, and that when the death of a patient occurs under such circumstances, the dispensing physician should be prohibited from issuing the death certificate.

The following explanation or defense of the druggists is also printed:

Although the above resolution may not be received by many physicians in the kindest manner, yet the druggists believe they are working for the greatest good for the greatest number of people, and hope to encourage the passage of a law restricting the privilege of the dispensing of drugs and medicines to registered pharmacists or assistants working directly under them. The effect of M.D.'s dispensing their own medicines is demoralizing to the drug business in small towns and cities. The first clause in the resolution is also aimed at the big department stores and catalogue houses which sell patent medicines and are often wont to substitute when an article is ordered which the house does not have, which is equal to prescribing and dispensing. The druggists, backed by their national association, are making a strong and honorable fight for the preservation of their retail business. And in the midst of the battle they have been most unjustly called a trust, while the facts are that they are only seeking to preserve their own commercial existence in the face of efforts of powerful and selfish monopolies to gradually eliminate the smaller dealer.

After much discussion in regard to the advisability of a reply in the *Times-Record*, it was decided by vote to report the matter to the Legislative Committee of the State Society.

I. E. BURNETTE, *Secretary*.

MORGAN COUNTY.

The Morgan County Medical Society held its regular monthly meeting at the Library, Jacksonville, Thursday evening, Dec. 13, 1906. Twenty-two members were present. Dr. Watson W. Gailey, Jr., was elected to membership. Dr. R. Winsor made application for membership. After the address of the retiring president, Dr. Josephine Milligan, and reports of the officers for 1906, the following officers were elected for 1907: President, Dr. S. E. Crouch; vice-president, Dr. H. C. Woltman; secretary, Dr. Allen M. King; treasurer, Dr. E. F. Baker; censor, Dr. T. J. Pitner (three years); librarian, Dr. Carl E. Black. The paper of the evening was by Dr. C. E. Cole on case records; discussion by Drs. Norbury and Black. The latter exhibited a number of enlarged charts to exemplify his system of keeping records of office and hospital cases.

Report of the secretary (abridged): Members in good standing, Jan. 1, 1906, 46; new members added, 3; total, 49; withdrawn, 1; in good standing Jan. 1, 1907, 48. The society held twelve regular meetings in 1906, also two extra meetings, addressed by Dr. McCormack of Kentucky and Dr. Mix of Chicago. At the regular meeting in February the society was addressed by Dr. Simmons of Chicago, and the September meeting by Professor Truman of the University of Illinois. The society during the year was never without a carefully prepared and executed program. Aside from addresses mentioned above, at each of the ten remaining meetings at least one formal paper (more often two), was presented by members of the society. Smallest number of members present at any regular meeting (June), 12; largest number of members present at any regular meeting (December), 22; average number of members present at twelve regular meetings, 17.

DAVID W. REID, *Secretary*.

Treasurer's report (summary). Receipts to Dec. 13, 1906: Cash on hand, Jan. 1, 1906, \$89; received dues, \$100; total, \$189; expenditures to date, \$136.50; balance on hand, \$52.50.

E. F. BAKER, *Treasurer*.

Dr. Carl E. Black, librarian, reported in part as follows: A year ago we inaugurated an entirely new work in our library. This work was largely new in medical library economy, and in some respects experimental. It is hoped that you will find sufficient improvement and progress made to justify the effort and expenditure.

It is now eleven months since your library committee installed under your instruction a trained librarian as the first step in the movement to make this library a real, living and useful part of our professional life. This new work was made possible by the list of members of this society known as the "subscribers to the Medical Library Fund." Books and journals are the most important tools in our profession. There is no investment which will pay as large

returns as a medical library properly used. We should purchase books and journals on the same plan we purchase knives, scissors, obstetric forceps, etc. Recently a doctor in a neighboring town was asked what medical books he was studying. He replied "that he went to medical school four years for that purpose." What could be more sad than the man who depends entirely upon his medical college course for his mental equipment in the practice of medicine? Each one of us remembers full well how little time we had for reading medical books during the busy days of the medical college course, and that then there was no time for medical journals. Most of us are endowed with the power to forget, and it is necessary to frequently consult the standard authors in order to refresh our memories lest we make a mistake, not to say anything of the reading necessary to keep abreast with the progress of the times. While we have here a large number of books, most of which are not new and some of them very old and very valuable, we are just now urgently in need of some new and up-to-date books. We should have at once the latest standard work upon the following subjects: Diagnosis; diseases of the circulatory system; diseases of the respiratory system; diseases of the digestive system; diseases of the lymphatic system; diseases of the skin; diseases of the nervous system; practice of medicine; diseases of children; pathology; general surgery; hygiene and sanitary science; medical jurisprudence; state medicine. The statistical report has been prepared by the librarian in charge, Miss Eva M. Funkey, and gives in brief the statistical results of the work of the past eleven months:

REPORT.

The Library has been open for reference and circulation of books every day since January 3, from 8:30 a. m. until 5:30 p. m., except Sundays and the legal holidays upon which the Public Library has been closed.

ACCESSIONS.

The Library now contains 1,470 volumes. Number of volumes in the Library, Jan. 3, 1906, 1,073; books added by donation, 404. Total net accessions, 1,477. Books withdrawn, 7. Number of volumes in the Library, Dec. 12, 1906, 1,470.

CLASSIFICATION.

The Section on Medicine in the Dewey Decimal Classification has been expaused and logically arranged by Dr. C. E. Black to meet the demands of this Library. Of this, two typewritten copies were made and temporarily bound; also from the subjects in the classification and other indexes an alphabetical subject index has been arranged with the Dewey number preceding each subject to facilitate in the finding of the desired material in the class catalogue. Three hundred and twenty-seven numbers of the current medical journals have been indexed, the cards typewritten and filed. In indexing, each journal averages about 50 cards, some 16,350 cards having been written for the 1906 literature. Dr. Black's periodical index has been in the Library since early in July and 20,500 cards from this index have been corrected, typewritten and filed with the cards of the 1906 literature and are now ready for consultation. The remainder will be finished by the end of the month.

PERIODICALS.

The following journals are received regularly in the Library and all original articles are indexed: American Journal of Medical Sciences, American Journal of Obstetrics, Annals of Ophthalmology, Annals of Otolaryngology, Annals of Surgery, Archives of Ophthalmology, Archives of Pediatrics, ILLINOIS MEDICAL JOURNAL, Johns Hopkins Hospital Bulletin, Journal of the American Medical Association, London Lancet, Laryngoscope, Medical Record, New York Medical Journal, Ophthalmic Record, Ophthalmology, Surgery, Gynecology and Obstetrics, Zentralblatt für Gynäkologie.

GIFTS.

The Library received during the past year 295 volumes from the library of the late Dr. David Prince, presented by his sons, Drs. A. E. and J. A. Prince, of Springfield. Seven volumes were received from Dr. Louis Mitchell of Chicago.

One volume from Dr. Josephine Milligan. Dr. Grace Dewey has given the complete files of the *Lancet* for the years 1904, 1905, the *Johns Hopkins Bulletin* for 1900, 1901, 1902, 1903, 1904, 1905, and the *American Journal of Medical Sciences* for 1905. Dr. Black presented several boxes of valuable reprints, which are to be indexed and classified. A number of members of the Society have also made generous gifts of books and bound journals during the year.

Respectfully submitted.

EVA M. FUNKEY, Acting Librarian.

Through the efforts of a special committee, of which Dr. J. W. Hairgrove was chairman, a new case has been placed in the west side of the room. A similar case on the north side is badly needed, as we have a large number of volumes of medical journals in the stack room of the Public Library for which there is no place in this room. In conclusion, we would say that the subscribers of the Library Fund have paid all bills to date, and with the subscription pledged, has ample funds for the estimated expenses of the coming year.

Respectfully submitted.

C. E. BLACK, Librarian.

NORTH CENTRAL ILLINOIS MEDICAL ASSOCIATION.

The thirty-third annual meeting of this society was held at the courthouse at Ottawa, Dec. 4 and 5, 1906. The following program was rendered: J. J. Pearson, M.D., Pontiac, "The Doctor." Dr. Hugh T. Patrick, Chicago, "Diagnosis of Hysteria." Discussion. Charles H. Hamilton, M.D., Dwight, "The Liquor Addiction and Life Insurance." Discussion opened by E. W. Weis, M.D., Ottawa. J. F. Percy, M.D., Galesburg, President of the State Medical Society, "The Borderland of Insanity." Discussion opened by H. N. Moyer, M.D., Chicago. Charles D. Thomas, M.D., Peoria, "Disease of the Frontal Sinus." Discussion opened by H. C. Hill, M.D., Streator. H. Lester, M.D., Streator, "Toxic Amblyopias." Discussion opened by F. C. Guthrie, M.D., LaSalle. Homer A. Millard, M.D., Minonk, "Inflammation of the Gall Ducts and Bladder." Discussion opened by J. A. Marshall, M.D., Pontiac. William P. Marshall, M.D., Long Point, "Eczema." E. S. Murphy, M.D., Dixon, "Report of Ten Cases of Ileus." Discussion opened by F. A. Turner, M.D., Sandwich. Frank E. Simpson, M.D., Chicago, "The Diagnostic Value of Ulceration in Cutaneous Disease." E. P. Cook, M.D., Mendota, "Report of a Case of Ruptured Tubal Pregnancy and Case of Ovariectomy on a Patient Over Ninety." Discussion opened by J. R. Keifer, M.D., Mt. Sterling. William O. Ensign, M.D., Rutland, "Medical Organization and the North Central Illinois Medical Association." Tuesday evening the society was tendered a reception at the Tent Colony by Drs. Pettit and Butterfield. Dr. J. F. Percy, president of the society, acted as toastmaster, and responses were made by Drs. Moyer, Patrick, of Chicago, and others.

RANDOLPH COUNTY.

The quarterly meeting of the Randolph County Medical Society was held in Percy, January 8, at Dr. E. L. Hill's office. The meeting was called to order by the chairman, C. G. Smith. On roll call, the following members were present: H. C. Adderly, Cbester; E. L. Hill, Percy; F. A. Wnorowski, Steelsville; A. D. Steele, Chester; J. W. Smith, Cutler, H. L. Gault, Sparta. The first paper presented was by H. C. Adderly on Medical Legal Defense, and was ably written and brought out a good many legal points for physicians in practice. Dr. H. L. Gault presented a gallstone of unusual size, which he removed by an autopsy, and related the history of the patient. Drs. J. W. Smith and F. A. Wnorowski presented an interesting case of a patient with liver trouble. Dr. C. G. Smith read a paper on prescribing proprietary medicines, followed by a free dis-

cussion. Dr. A. D. Steele read a paper, the Need of Uniformity in Fees in Examination of Life Insurance. The following resolution was adopted:

Resolved, It is the sense of the Randolph County Medical Society that no member of this society shall make an examination for any of the old-line insurance companies for a fee less than \$5, and that we use our influence to induce every physician of the county to confer with the County Society, and that the secretary notify all physicians of this action. A. D. STEELE, Secretary.

SANGAMON COUNTY.

The Sangamon County Medical Society held its annual meeting, Nov. 12, 1906, in the parlors of the St. Nicholas Hotel. Minutes of the previous meeting were read and approved. The applications of Drs. C. D. Wright and W. E. S. Mayes were read and referred to the board of censors. The usual fee of \$10 was allowed by the secretary-treasurer for his work during the past year. The officers for the ensuing year were elected as follows: Dr. A. D. Taylor, president; Dr. C. M. Bowcock, vice-president; Dr. C. L. Patton, secretary-treasurer; Dr. H. H. Tuttle, Dr. S. W. Rice (Cantrall) and Dr. Stanley Castle, censors. A vote of thanks was tendered the retiring officers. Adjournment. Immediately after the adjournment the members and guests of the society retired to the dining room to partake of our usual banquet.

In addition to our evening entertainment, the society enjoyed clinics during the day, given by Dr. C. L. Mix of Chicago. The morning clinic was held at St. John's Hospital. Several cases presenting different forms of disturbance of the circulatory system were shown and demonstrated. In the afternoon a clinic on Nervous Diseases was held at the Springfield Hospital. Cases of amyotrophic lateral sclerosis, syringomyelia and diseases of the conus medullaris were presented.

The Sangamon County Medical Society held its regular monthly meeting in the Lincoln Library, Dec. 10, 1906. The meeting was called to order by the president, Dr. A. D. Taylor. The minutes of the previous meeting were read. Corrections were made by Dr. E. E. Hagler relative to the banquet and attendance at our annual meeting. Drs. C. D. Wright of Springfield and W. E. S. Mayes of Dawson were elected to membership. The applications of Drs. Shearl, Fleitzi, Rigg, Palmer and Lutyens were read and referred to the board of censors.

Dr. J. H. Dixon presented a specimen of osteosarcoma of the humerus, removed at operation from a boy 16 years of age. Dr. W. A. Young presented, for discussion, a specimen of sarcoma of the kidney removed postmortem from a child. Dr. Kreider demonstrated a collection of old instruments used by his grandfather in the early part of the nineteenth century. Dr. Griffith reported to the society the progress he had made regarding the physicians' defense fund. He asked if it were optional with the members of the society whether they pay the assessment of 50 cents or not. If they do not pay, are they in good standing in the local and state societies? The secretary was instructed to communicate with Dr. Weis about these points and report to the society at its next meeting.

Dr. Dixon read the following communication from Dr. Egan of the State Board, relative to the practice of certain men in our city who have obtained no medical license.

O. D. Weeks:—The office of Dr. Weeks & Co., Springfield, was investigated by the State Board of Health about a year ago. A state license was shown, and it was the impression that the person practicing was the possessor of the license. Information that O. D. Weeks, who does not hold a license, was practicing in Springfield, was filed with the State Board of Health in October, 1906. The matter was placed in the hands of an attorney, but no action could be taken until November, when proof of practice was obtained and suit filed. Before the date set for trial, Weeks, through his attorney, appeared in court, paid the statutory fine of \$100 and costs, and made an agreement, in writing, not to do further practice in the state.

P. C. Bacon:—No complaint has been made to the State Board of Health con-

cerning the man's practice. His sign as ophthalmologist and neurologist was noticed on South Fifth Street. An authorization for his prosecution was placed in the hands of an attorney. Proof of practice was difficult to obtain, but was finally secured. At the trial the justice, Connelly, held that the board had not proven venue—which the board, by the way, is not required to prove—and the justice on this ground dismissed the case without letting it go to the jury. The State Board of Health promptly took an appeal to the Circuit Court. Bacon left town immediately after the trial. His offices are now closed.

"Prof." W. L. Blue:—No complaint of his practice was made to the State Board of Health. He is said to be practicing in the Pierik Building. An authorization for his prosecution has been issued.

"Professor" Mueller:—Complaint of his practice made to the State Board of Health a few days ago. An authorization has been issued for his prosecution.

Dr. L. C. Taylor asked Dr. Egan if it were not a fact that it was contrary to our state law for any one not holding a license to call himself or advertise himself as a doctor? Dr. Egan replied that the law of 1899 provides for osteopaths, midwives and physicians. Justice courts do not hold that a sign, or the fact that a man calls himself a physician, is evidence of practicing medicine. He must actually treat patients before he can be convicted. Dr. Munson:—Do osteopaths violate the law in prescribing medicines? Dr. Egan:—They do. Dr. Kreider stated that it was generally believed that osteopaths were practicing all branches of medicine and surgery. Discussion of these points was entered into by various members of the society. A vote of thanks was tendered Dr. Kreider for his interesting presentation of old surgical instruments. The meeting was attended by 29 members and one visitor, Dr. Lutyens, of Buffalo.

STEPHENSON COUNTY.

PRESIDENT'S INAUGURAL ADDRESS.

M. M. BAUMGARTNER, M.D.

FREEPORT.

It indeed affords me a great pleasure to address you as president of this society, and I wish to express my appreciation of your complimentary action toward me, who by no means am the most worthy to occupy this honorable position. That it is customary for the incoming presiding officer to offer an inaugural address, I am not quite certain, but believing that there are numerous conditions which are harrassing to us as an organized profession as well as disastrous to us as individuals, I take this opportunity of bringing them to your notice.

The integrity and perpetuity of any body depends on its unity of purpose and the adherence of its members to established and accepted principles. The code of ethics which is supposed to have actuated the profession of medicine from the earliest times down to the present, has been of the highest order, but in adhering to it as in our moral rectitude, we all have been woefully deficient and our shortcomings are legion. First of all, therefore, I wish to plead with you for a stricter adherence to professional etiquette, each remembering that the altruistic man is the highest type of manhood, and that righteousness, professionally speaking, is the only true solution of the ills which are born of the ever increasing number of practitioners among us. The law of supply and demand will eventually adjust itself, although some of us may suffer some inconvenience in the meantime.

A solution of this congested condition would be materially assisted by specialization. Specialization of labor in our chosen field is as essential as in other lines of human endeavor. Speaking more especially of this immediate locality, I believe that specialization is necessary for our well-being, as well as for the public good. I believe that the thing which stands in the way of more specialization among us is the generalization of too many of us. We are loath properly to accredit the work of any one who specializes, because we aim to cover the whole field of medicine ourselves, and thus become masters of nothing. Hence, in gen-

eral, our fees suffer, the community receives poorer services, we backbite, slander and malign each other, steal each other's cases, put the laity wise, and make them wary of us all, and our field becomes the easy prey for quacks, church sanatoria, and outside specialists. Fellow practitioners, the remedy for these evils lies wholly with us. It is for us to apply it.

More efficient organization is another pressing need. I believe that the profession should be so thoroughly organized that each individual member would be subservient to the whole, that the practice of every doctor should be limited by this organization, and that rules and regulations be rigidly enforced. I believe that organization is the only solution of some of these problems. The development of specialization through organization will be very greatly assisted by the newly proposed study course. This is a meritorious departure and should be enthusiastically supported by every member of this society. An element which frequently works to our great discomfort is the entering into our territory of outside doctors. Our proximity to Chicago, and the traveling facilities make it very convenient for physicians and surgeons, who have established for themselves a great name by merit or otherwise, to come into our community and render professional service at any time. While it is the right of any layman to employ the services of whom he pleases, yet it is our duty to see to it, after we have done the menial service and taken the worry and care of a case, the fees for which may be paid any time inside of ten years, that some alien doctor does not come in, give the patient a fake operation, or one for diagnostic purposes, although the diagnosis may have stood out like the "nose on a Dutchman," and go away with a big fat fee in his pocket. Nor is this all. It would not be so distressing if these intruders co-operated with the accredited profession alone, but any fellow having a license to practice anything in Illinois can call upon the supposedly most ethical physician or surgeon in Chicago, and be sure of receiving assistance. If this condition is allowed to continue, how can our organization be perpetuated? How can we go before the public and attack Dr. So-and-so when Dr. X of Chicago counsels with him and operates for him? It is, therefore, our duty to see to it that this condition be brought before the authorities of the superior organization, to the end that discredited practitioners in our community will be forced to stand alone. Then, and then only, will the public know their true status and shun their false practices.

Another evil that threatens to become an important factor in this community is the highly vaunted and much advertised establishment in our midst of a church sanatorium, subsidiary to and under the care of a set of practitioners to whom this body has seen fit to refuse membership. As the proposition stands it is that aggregation against our organized profession, or vice versa, whichever way you choose to state it. This is the more menacing, because to this group of men, which has been established here for some time, and which, as we believe, has resorted to practices that all true physicians as well as laymen should condemn, it will give the appearance of the approval of religion. If this attempt will be successful, it certainly will be to the discredit of the intelligence of this community. The organization in our county has failed in many of its duties, one of which has been that of educating the public. Through judicious advertising in the news columns a favorable sentiment toward this institution has been created, and it is our duty to re-educate the public, and establish in the minds of the people facts regarding ethics which long have been hidden and are now about to be smothered beneath the cloak and ardor of religious fervor. This society should leave no stone unturned to establish in the minds of the profession at large, the ministry of the Christian church and the laity in general, the fact that the organized profession of Stephenson county and vicinity does not approve of the methods practiced by this institution, and, therefore, cannot recommend it under any consideration to those who are seeking relief from the many ills to which the human flesh is heir.

I speak of these conditions briefly to call your attention to them. I believe they are vital, and, therefore, demand your careful consideration. Throughout

the year I shall endeavor to further the interest of our society in every way, and I earnestly solicit the co-operation of each of you to the end that this society may take a long stride to keep it up to the high standard it has already attained. I trust you will contribute cheerfully to the programs of our meetings when asked to do so, be regular in attendance, and participate in all discussions opened for our consideration.

UNION COUNTY.

The Union County Medical Society met in regular session at the club rooms, with the president, Dr. S. C. Martin, in the chair. There were present Drs. E. G. Earnhardt, S. C. Martin, L. D. Keith, T. L. Agnew and A. J. Lyerly. Dr. Earnhardt read a paper on Penumonia in Children. The subject was ably presented and thoroughly discussed by members present. The annual election of officers for the ensuing year resulted as follows: L. D. Keith, president; T. B. Goodman, vice-president; A. J. Lyerly, secretary-treasurer. A. J. LYERLY, *Secretary*.

WHITESIDE COUNTY.

On Dec. 19, 1906, at Sterling, the Whiteside County Medical Society held its annual meeting and elected the following officers for the coming year: President, E. P. Sullivan, Morrison, Ill.; vice-president, C. G. Beard, Sterling; treasurer, J. F. Keefer, Sterling; secretary, A. H. Harms, Sterling. At this meeting resolutions were adopted regarding life-insurance fees along the line recommended by the Kentucky State Society. A. H. HARMS, *Secretary*.

WILL COUNTY.

The regular meeting was held Tuesday evening, December 11. Dr. Woodruff reported a case of a woman shot in the ear with an air gun. The bullet was found in the middle ear. A paper, the Eye Symptoms of Albuminuria, was read by Dr. W. O. McBride. A discussion of the November current literature was led by Dr. R. L. Eldredge of Frankfort. A general discussion of the subject, Shall the Physician Dispense His Own Medicine? was led by Dr. M. W. Cushing. The officers for 1907 were elected as follows: Dr. A. Nash was re-elected because of faithful and efficient service, but declined to serve. Dr. Martin W. Cushing was then elected president, and Dr. W. O. McBride was elected vice-president, and Dr. Marion K. Bowles, secretary-treasurer. Members present: Drs. Nash, Leach, Cohenous, Brannon, Woodruff, Lennon, McBride, Jump, Cushing, Fisher, Eldredge, Bowles, Curtis, Benson.

NEWS OF THE STATE.

Aurora reports five cases of scarlet fever.

Dr. D. Hally-Smith has sailed for Europe.

Two cases of scarlet fever are reported in Elgin.

Dr. George W. Hall sailed for England January 1.

Dr. Rollo Grimes, of Pittsburg, will locate at Cuba, Ill.

A number of cases of scarlet fever are reported in Ivesdale.

Dr. Frank Conroy has been seriously ill from accidental asphyxiation.

Dr. T. W. Dresser, of Springfield, will spend the winter in Mobile, Ala.

Dr. Harry S. Allen, New Boston, is being treated in a Chicago hospital.

Dr. J. M. Cody, Tremont, is convalescent after a serious illness and operation.

Dr. W. E. Mercer, a recent graduate of Keokuk, Iowa, has located in Mt. Carmel.

Dr. and Mrs. Daniel R. Brower left Chicago for Egypt and Palestine January 23.

Dr. John W. Peters, Mount Carroll, has been appointed physician of Carroll County.

Dr. Constantine H. Murphy, Chesterfield, is reported to be seriously ill at his home.

Dr. and Mrs. S. M. Parker, Aviston, have gone to Redlands, Cal., to spend the winter.

Dr. R. O. Lacey, Carbondale, who has been seriously ill, is reported to be convalescent.

Dr. A. Doe has been made knight of the Order of St. Olaf by King Hakon, of Norway.

Influenza is more prevalent in Chicago than at any time since the winter of 1889-1890.

W. F. Elgin, M.D., continues in charge and direction of the Mulford Vaccine Laboratories.

Dr. Emmett A. Garrett, Peoria, has been appointed assistant physician to Peoria County.

Dr. Marcus Reichmann has been appointed lecturer on radiology at the Chicago Polyclinic.

Dr. D'Orsay Hecht has been appointed attending neurologist to the St. Elizabeth Hospital.

Dr. John P. Sprague has returned to Chicago and announces his residence at 426 Oak Street.

Dr. A. W. Hinman, Dundee, recently underwent an operation at the Sherman Hospital, Elgin.

Fire destroyed the offices of Drs. Adams A. and William E. Franke, at Newton, December 6.

Dr. Amos S. Bickel, North Chillicothe, is still seriously ill at the St. Francis Hospital, Peoria.

Dr. A. Fields, of Chicago, has purchased the practice of Dr. French and removed to Stonington.

Dr. Charles A. Allen, Virden, has returned from St. Louis, where he recently underwent operation.

Another World's Fair is to be held in Seattle in 1909, to be called the Alaska-Yukon-Pacific Exposition.

Dr. S. L. McCreight, 100 State street, Chicago, and family are spending the winter in Los Angeles, Cal.

Dr. Daniel R. Brower has been elected president of the Senn Club, vice Dr. Fernand Henrotin, deceased.

The spread of scarlet fever in Aledo has been checked, and no new cases have appeared for several days.

Dr. and Mrs. Edward J. Streeter, who are now in Vienna, expect to return to Chicago in the early spring.

Dr. George W. Parker has been appointed supreme medical examiner for the Peoria Life Insurance company.

Dr. B. F. French, who has practiced for some time at Stonington, Christian County, has removed to Chicago.

Parke, Davis & Co. have recently occupied their new building just completed at 50 Franklin Street, Chicago.

Dr. John H. Chew has been elected president of the Chicago Polyclinic, vice Dr. Fernand Henrotin, deceased.

Dr. S. J. Boyd and family, 413 Washington Boulevard, have taken a cottage for the winter at Ocean Springs, Miss.

Plans are being prepared for a five story addition to the Hospital of St. Anthony of Padua, to cost about \$100,000.

Dr. Walter B. Stewart has been appointed health commissioner of Joliet, vice Dr. William A. McRoberts, resigned.

Dr. Wilhelmina H. Jacobs has been appointed assistant physician at the Illinois Southern Hospital for the Insane, Anna.

Peoria is reported to have fifteen cases of typhoid fever on East Bluff, and these have been traced to an infected milk supply.

The commissioners of Cook County have invited proposals for an automobile ambulance, for the use of Cook County Hospital.

Dr. William Cuthbertson was thrown from his automobile in a collision with a wagon recently and suffered severe contusions.

Mr. Chafee has introduced a bill in the Senate to regulate the practice of osteopathy and provide for a state board of examiners.

Dr. J. C. Westervelt, Shelbyville, chief medical inspector of the State Board, has assumed the duties of assistant secretary of the board.

Evanston, Oak Park, Wilmette and Kenilworth schools have been closed on account of the prevalence of scarlet fever and diphtheria.

Dr. J. E. Burkeley is reported to have been injured in the wreck of a suburban train on the Lake Shore Road near Hammond January 18.

The village of Rossville and its vicinity are reported to be suffering from an epidemic of scarlet fever. All schools in the township are closed.

Dr. Hasleu, Grand View, is reported to have been injured in the explosion which destroyed a passenger train at Sanford, Ind., January 19.

Dr. Frank Billings, Chicago, has been elected chairman of the consulting staff of the Cook County Hospital, vice Dr. Henrotin, deceased.

Dr. William L. Secor has opened a private sanitarium to be known as Thornton Villa, at La Grange, Ill., especially for physiologic therapeutics.

Dr. Theodore C. Hays, Canton, was injured in a wreck near Chicago December 11, breaking his leg and sustaining severe contusions of the body.

Smallpox is reported in North Chillicothe, Hoopeston, Stronghurst, Wyoming, Casselton, Toulon, East Peoria, Burrowsville and Jacksonville.

The Mayor of Dekalb announces the quarantine against scarlet fever is being strictly respected, and that the disease appears to be under control.

E. D. Reed, M.D., of Ann Arbor, Mich., has been engaged to direct research work in the Mulford Laboratories, particularly in pharmacology and physiological chemistry.

A fire broke out in the attic of the South Chicago Hospital, January 12 and necessitated the temporary removal of seventeen patients, but little damage was done.

Dr. William W. VanWormer, Girard, has been appointed division superintendent of the Chicago and Alton Railroad, vice Dr. Charles A. Allen, Virden, resigned.

Dr. J. C. Westervelt, inspector for the State Board of Health, reports that the diphtheria situation in the southern and western part of Iroquois County is much improved.

Drs. Jeremiah H. Stealy, Freeport, and D. Carson Smith, Stockton, had a narrow escape from drowning while crossing a frozen creek early on the morning of December 30.

The Wabash County Medical Society, at its recent meeting, passed resolutions laudatory of the late Dr. Jacob Schneck, Mount Carmel, and expressive of sorrow at his death.

Dr. Edward L. Mitchell, Monmouth, was struck by a falling ladder at the Monmouth Hospital, January 7, which temporarily stunned him and caused a severe scalp wound.

The Chicago Methodist Social Union has planned for a grand meeting to be held in the interest of Wesley Hospital for the purpose of raising the endowment fund of \$100,000.

C. P. Bruning of Pea Ridge, is reported to have been tried before a jury at Mount Sterling for practicing as a physician without a state license, and to have been fined \$100 and costs.

Dr. E. F. Baker, inspector of the state board, reports that several deaths from scarlet fever have occurred in Knox County, due primarily to failure to observe the quarantine regulations.

Evanston claims to be one of the healthiest cities in the country, with a death rate of 9.33 per 1,000 for 1906. Pneumonia caused 30 deaths and tuberculosis 22, out of the 215 deaths of the year.

One of the most recent inventions for the convenience of transportation of invalids, and with all the requisites of the model sick room, has been installed by the Boston & Maine Railroad Company.

Dr. Albert Dahlberg, who was found guilty by a jury for the illegal selling of cocain, is reported to have been fined \$200 January 3, and to have been sent to the house of correction until payment of the fine.

The City Council of Chicago has been asked to appropriate \$15,000 for the employment of additional medical inspectors, their work being needed to combat the present epidemic of scarlet fever and diphtheria.

By the will of the late Bernard Neu, who died October 1 in Hamburg, \$500.00 is bequeathed to Michael Reese Hospital, and \$200 each to St. Luke's and Alexian Brothers' hospitals, and the Home for Incurables.

Dr. Clinton Helm, dean of the medical profession at Rockford, announces that he will retire from active practice February 25, on the fifty-fifth anniversary of his graduation from the University of Iowa.

At the annual meeting of the State Board of Health in Springfield, January 15, Dr. George W. Webster, Chicago, was reëlected president, and Dr. James A. Egan, Springfield, was reëlected secretary and treasurer.

The Cook County commissioners have decided to eliminate official recognition of the medical sects in the Cook County Hospital. All medical men from this time will be appointed strictly on a basis of efficiency.

The superintendent of the Chicago Visiting Nurses' Association, at the annual meeting, reported that 71,980 visits have been made by the nurses of the association to the sick and suffering of Chicago during the year.

All but 10 per cent. of the \$700,000 necessary to build the new home for the Michael Reese Hospital has been subscribed. At a dinner held at the Standard Club, December 27, pledges were received amounting to \$230,000.

From February 11 to 23 there will be presented at Powers' Theater a play, "The Strength of the Weak," one of the authors of which is Dr. Alice M. Smith, a graduate of the Northwestern University Woman's Medical School.

Mr. Chipperfield has introduced a bill to establish a hospital for the treatment of deformed children, authorizing the appointment of a board of trustees to ask for a donation of site and providing for an appropriation of \$60,000.

The American Public Health Association held its annual meeting at Mexico City on Monday, Tuesday, Wednesday, Thursday and Friday, December 3, 4, 5, 6 and 7, under the presidency of Dr. F. C. Robinson, of Brunswick, Maine.

Dr. W. P. Spratling announces a prize of \$500, offered by the Association for the Study of Epilepsy, for the best essay on the etiology of that disease. The prize is given by persons interested, heart and soul, in the work of the Association.

Miss Eleanor White, who declared herself to be a graduate of the College of Physicians and Surgeons in Chicago, was placed in the city hospital of St. Louis, January 19, suffering from a nervous breakdown, as a result of overstudy.

The Evanston Medical Science Association has been incorporated with the object of collecting and maintaining a medical library, not for profit. The incorporators are William G. Alexander and Drs. Stephen V. Balderston and Edward H. Webster.

Dr. E. F. Baker, inspector of the state board of health, reports that an epidemic of diphtheria in the city of DeKalb was due to the Christian Scientists, who treated some cases of this disease and neglected to report the same to the state board of health.

At the annual meeting of the Children's Hospital Society, January 6, \$1,300 was ordered to be distributed to the various hospitals where children have been cared for. Dr. Frank Billings was reelected president of the society, and Dr. Frank S. Churchill, secretary.

The Tazewell County Medical Society, at a meeting held in Pekin, January 9, resolved to ask the newspapers to omit names of physicians in connection with items referring to accidents or illness. The next meeting of the society will be held in Washington in February.

The State Board of Health is circulating a warning to the public against "the so-called 'traveling specialists' who come from time to time into the various communities, their visits heralded by bold display advertisement in the newspapers, or by showy handbills."

At the quarterly meeting of the Coles County Medical Society, at Charleston January 8, stringent resolutions were passed with reference to the appearance of names of members of the society in the lay press, in connection with accidents and operation and the like.

The following have been elected officers of the medical staff of the Marks Nathan Jewish Orphan Home: President, Dr. L. J. Pritzaker; vice-president, Dr. M. Meyerovitz; secretary, Dr. Melchior Whise; directors, Drs. T. P. Sacks, H. J. Davis and T. B. Diamond.

Notice was given to the board of education at Galesburg by the Board of Health annulling the order which requires all pupils attending public schools to be vaccinated. This action was taken on account of the diminution of smallpox and the failure of new cases to appear.

The jury in the case of Miss Anna Ragan, of Wagner, Ill., against Dr. J. W. Botkin, of Verdin, failed to agree on a verdict in a trial recently held in Carlinville. This is the second trial of this case in which Miss Ragan charges Dr. Botkin as being the father of her child.

Dr. William Noyes, editor of the Journal of the American Chemical Society, and chief chemist of the bureau of standards at Washington, D. C., has accepted the position of professor of chemistry and director of the chemical laboratory in the University of Illinois, Urbana.

The late Otto Young bequeathed \$20,000 to the Chicago Home for the Friendless and \$400,000 to the Chicago Home for Incurables, as a separate fund, the income of which is to be used for the maintenance

of the building already erected by Mr. Young on the grounds of that institution in memory of his son.

Dr. P. G. Manley, of Mt. Carmel, who has had a most extensive practice in this community for thirty-eight years, will soon leave for Mexico, where he has a large ranch, hoping to regain his health, which has been failing ever since he received a severe injury by being run down by a railroad train about two years ago.

Arthur P. Hitchens, M.D., succeeds J. J. Kinyoun, M.D., as director of the biological laboratories of M. K. Mulford Company. Dr. Hitchens has been connected with the Mulford Biological Laboratories for the past eight years, during the greater period of that time having had personal charge of the preparation of antitoxins and curative sera.

Judge McEwen, of Chicago, recently upheld the ethics of the Chicago Undertakers' Association in its demand that a member shall not solicit at the home of a person dying or dead, and decreed that the association had a right to expel Richard A. Allen, 284 North Clark street, unless he paid a fine imposed by it for his alleged unprofessional conduct.

The president of the Illinois State Board of Charities has sent a communication to the attorney general urging the necessity of a resident head for the office force of the board, one who should be more than a secretary or a clerk, and who should be provided with a sufficient number of assistants. Mr. Graves is, it is said, mentioned for the new position.

The telephone question in Chicago seems to be a rousing one and physicians should be careful how they commit themselves to either party now striving for a franchise. Meanwhile the Chicago Medical Society is doing good work in securing for medical men a three cent rate from druggists' phones, the rate which the druggist has to pay for outgoing calls.

A sea career is opening for several hundreds of nurses. Two graduate nurses from New York Hospital have been placed on passenger steamships of the Hamburg American line, and more will be needed. Other first-class steamboat lines will, no doubt, follow this example, and the trained nurse will become a recognized necessity in the first class steamship, as the physician now is.

Dr. Charles St. Clair, 400 Washington Boulevard, Chicago, was held to the criminal court by a coroner's jury in Cook County, January 19, on the charge of performing an illegal operation on Miss Emma Johnson, eighteen years old, 1618 Fulton Street. The girl died at the County hospital, January 13. This man's name is not found in any authentic register of physicians. He is said to be 70 years of age.

Mr. H. M. Hana and Col. O. H. Payne, have each given \$100,000 to the Western Reserve University of Cleveland, for the building, equipment and endowment of a laboratory of experimental medicine in the medical school. Dr. George N. Stewart, head of the physiologic department of the University of Chicago, has been elected the first incumbent of the chair of experimental medicine in the university.

Dr. C. B. Taylor has resigned his place as superintendent of the Illinois Asylum for Feeble-minded Children in Lincoln. It is stated that Dr. Walter Fernald, superintendent of the asylum for feeble-minded in Massachusetts, has been offered the place, but has declined the appointment because his home state raised his salary. It is understood that a suitable man is desired to take this place, but has not yet been found.

Plans for establishing funds in memory of the late Dr. Christian Fenger, from which will be awarded annual cash prizes for original research in bacteriology, surgery and pathology, resulted, on December 26, in the incorporation of the Fenger Memorial Association. The incorporators are: Drs. Frank Billings, Ludvig Hektoen, Karl Doepfner, George Webster, Charles S. Bacon, William T. Belfield and John B. Murphy.

An examination will be held in Chicago, January 22, under the direction of the Civil Service Commission, by a board of examiners composed of Drs. Hugh T. Patrick and W. A. Evans, Chicago, and Dr. Vaclav H. Podstata, Elgin, to select a psychopathologist for the Cook County Insane Hospital, Dunning. The salary is fixed at \$2,400 in addition to living expenses, and an excellent opportunity for original research is furnished.

Miss Lucene Matthews, of 3832 Aldine place, an antivivisectionist, recently appeared before a meeting of the Chicago City Council and complained of the methods of the city dog catchers and vivisection. Miss Matthews stated that she would rather lose her life than sacrifice the life of a single dog unnecessarily and inquired the views of the aldermen upon this question. The response from several city fathers was that they would prefer to sacrifice the lives of all the dogs in Chicago rather than lose their own.

At a meeting of the Chicago City Council, November 12, Alderman Young presented an ordinance, which was passed, prohibiting the removal of the Chicago Lying-in Hospital from its present location to the site facing Washington Park. The ordinance provides that before a hospital can be opened in any neighborhood frontage consents from the surrounding property owners must be secured. This ordinance also affects the McCormick Memorial Hospital for Infectious Diseases.

The Illinois civil service commission will soon call examinations for pathologists, physicians, assistant physicians and internes. These positions pay from \$75 to \$125 per month and board, with the exception of internes who will receive \$25 per month and board; also a director of the state Psychopathic Institute, at a salary of \$3,000 per year and board. Physicians who wish to try for this place should notify the secretary, Joseph C. Mason, Springfield, Ill., so that they will be informed when the examinations will be held.

Dr. W. A. Evans of Chicago delivered an address on Tuberculosis before the Jacksonville Society for the Prevention of Tuberculosis at its annual meeting Jan. 12, 1907. The meeting was attended by 300 laymen who seemed to be interested. The society also had some statistics on local conditions that were of much interest. The same officers for 1906 were reelected for 1907. It was also decided to try to have a tubercular

exhibit in 1907. Dr. Evans also addressed the Medical Fraternity the same afternoon on Medical Defense Fund.

After a hunt which lasted more than twelve months and extended from Maine to California and from Florida to Washington, Fred J. Bailey, an insurance swindler preying particularly upon physicians, was run to earth in Davenport and was sent to the state prison, pleading guilty and waiving trial. His plan was to interview physicians and offer them the position of medical examiner for a certain life insurance company, stipulating that they should take one share of stock, half to be paid for in cash and half in medical services. Thousands of medical men and women have been swindled.

The board of trustees of the Asylum for Feeble Minded Children at Lincoln, has elected Dr. Harry Godfrey Hart first assistant physician at the Northern Hospital for the Insane at Elgin, as superintendent of the Asylum for Feeble Minded Children at Lincoln, vice Dr. C. B. Taylor, resigned. Dr. Hart graduated from the College of Physicians and Surgeons in 1900; served as assistant Cook County physician at the detention hospital in 1900; was appointed assistant physician at the Illinois Eastern Hospital for the Insane at Kankakee in 1901; was appointed first assistant physician of the Illinois General Hospital for the Insane at Jacksonville in 1905; and was transferred to a like position at the Illinois Northern Hospital for the Insane at Elgin in 1906. He is a member of the Elgin Physicians' Club, Chicago Medical Society, the Illinois State Medical Society, and the American Medical Association. He was recommended for appointment to Governor Deneen by the State Board of Charities at its meeting at Springfield, January 18.

According to the report of the Department of Health of the Isthmian Coal Commission for the month of September, 1906, seven white men out of a total of 5,000 died, two of disease and five from violence. Both of the white men died of pneumonia; one was a Greek and the other a Jamaican, and both had been on the isthmus for eight months. There are about 4,800 Americans on the isthmus, and Dr. Gorgas says: "I think it is worthy of remark that 5,000 Americans recently from a temperate zone should have been able to pass two months during the height of the raining season, their work extending forty miles through tropical jungle, without a single death from disease of any kind. The figures with regard to employés are absolute. We get the actual number of employés from our pay rolls, and the deaths from the hospital reports and the cemetery reports." There are about 1,000 women and children, wives and families of the American employés on the isthmus, and none of these died of disease during August and September.

Mr. Norman W. Harris, of the Board of Trustees, has made a generous gift to the Northwestern University which will enable it hereafter to maintain an annual course of University lectures beginning with the present year. Announcement of the opening series will be given in due course. The conditions of the gift require that the lectures shall be based on a considerable body of original research, that they shall be delivered at the Northwestern University for the first time, and shall be published

in the form of a volume bearing on the title page a statement that they were delivered at the Northwestern University upon the N. W. Harris Foundation. The field of scholarship in which they shall be given is not restricted, and the lecturers may be chosen from foreign countries as well as from the United States. No member of the faculty of the Northwestern University is eligible to appointment. One thousand dollars or more will go to the lecturer as well as all profits from the sale of the volume.

MALPRACTICE SUITS.

Suit for malpractice has been instituted in Platt County by Elzie Varvil against Alvin Ward, M.D., of Bement. This suit is brought by plaintiff to obtain damages which he claims in the amount of \$10,000, for alleged malpractice during the period he had a broken leg. Only the precipe has been filed and it is said that this is the basis for the suit.

Dispatches from Bloomington state that Dr. E. P. Sloan, of Danvers, has been sued by A. L. Stahley, a farmer of Danvers, for \$11,000. The first suit is for \$1,000, brought to recover money paid to the defendant for an operation upon Miss Stahley, the claim being that the operation was not performed. The second suit for \$10,000 was based on allegations on the part of Mr. Stahley that the defendant, after failing to perform the operation for appendicitis for which he charged, made reports in regard to the nature of the operation which reflected on the character of the young woman.

Dr. A. P. Rockey, of Assumption, has been made defendant in a suit for malpractice in treating an abscess of the breast in the Circuit Court of Christian County. Dr. J. N. Nelms, member of the medical defense committee of Taylorville, thinks there will be no difficulty in securing a judgment for Dr. Rockey in case this matter should come to trial.

NEW INCORPORATIONS.

The secretary of state at Springfield has licensed the following corporations:

F. R. Greene Medicine Company, at Chicago; capital, \$2,500; manufacturing and mercantile; incorporators, B. L. Hayes, F. C. Walters, J. R. Monahan.

Hunter Medical School, at Chicago; not for profit; educational; incorporators, Henry C. Anthony, Henry F. Lewis, Ross C. Whitman.

Kermer Remedy Company, East St. Louis; capital, \$2,500; manufacturing and sale of medicines; incorporators, Charles F. Merker, Anna Merker, Henry F. Merker.

MARRIAGES.

FRANK R. WHEELER, M.D., to Miss Jean MacMurdo, both of Auburn, Ill., Jan. 19, 1907.

JOHN T. RIESS, M.D., to Miss Mary T. Spitz, both of Baldwin, Ill., December 22.

LEO E. SCHNEIDER, M.D., to Miss Lenore Hartnett, both of Oregon, Ill., in Chicago, December 2.

EDWARD CHRISTIAN WRIGHTSMAN, M.D., to Miss Anna Sand, both of South Chicago, Ill., December 25.

WILLIAM B. WHERRY, M.D., River Forest, Ill., to Marie Eleanor Nast, M.D., at Cincinnati, December 29.

T. A. BRYAN, M.D., Lerna, Ill., to Miss Vivian Hadley, of Plainfield, Ind., December 25.

EDWARD C. WINANS, M.D., Chicago, to Miss Lona Luena Fancher, of Hammond, Ind., recently.

JAMES LUTHER CHURCH, M.D., to Miss Mary Priscilla Kellogg, both of De Kalb, Ill., December 25.

THOMAS WALTER CURRY, M.D., to Miss Ethel King, both of Streator, Ill., at Ottawa, Ill., January 3.

GEORGE W. TAPE, M.D., Arrowhead, Cal., to Miss Emma Langenhagen, of Chicago, at Los Angeles, December 18.

DEATHS.

BARNET L. BONAR, M.D., died at his home in Streator, Ill., December 22, aged 54.

J. L. PRATT, of Blue Mound, Ill., died recently at San Bernardino, Cal., aged 74.

HERMAN STEIN, M.D., for the last twelve years a resident of Chicago, died at his home, December 23, aged 80.

ISAAC BENSON ENNIS, M.D., died at his home in Chebanse, Ill., December 25, after an illness of ten days, aged 36.

DR. AMOS W. GAUSE, of Centralia, graduate of the University of Tennessee in 1888, died January 13, aged 60 years.

ABEL C. BINGHAM, a practitioner of Harvard, Ill., for thirty years, died in Hahnemann Hospital, Chicago, December 6, from paralysis.

JAMES W. STANDLEY, M.D., died at his home in Alexis, Ill., December 23, from angina pectoris, after an illness of two weeks, aged 48.

CLARE SUMNER LEARNED, M.D., was found dead in his apartments in Chicago, January 9, from accidental gas asphyxiation, aged 25.

FREDERICK A. WAGGONER, M.D., a well-known practitioner of Hamilton, Ill., died January 1 at Boulder, Colo., where he had gone for his health, aged 34.

JAMES NELSON BANKS, M.D., a practitioner of Chicago until his retirement a few years ago, died at his home in Kenilworth, Ill., December 11, aged 90.

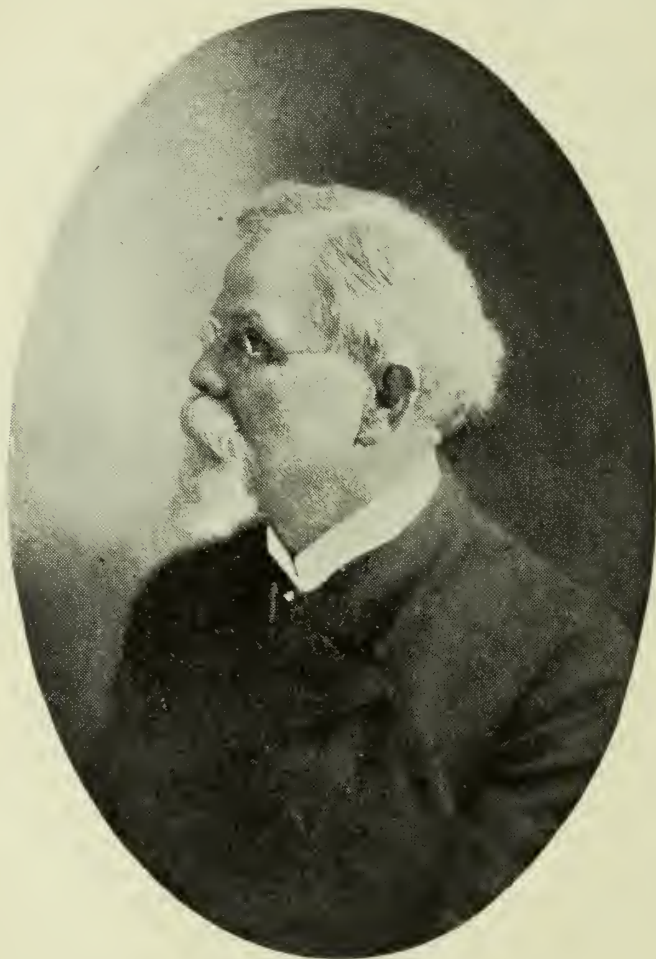
JOHN L. CONNELLY, M.D., for many years a resident of Harristown, Ill., died at his home in that village, January 1, from heart disease, after a long illness, aged 60.

OSCAR MORRILL IDE, 888 West Harrison street, Chicago, died Jan. 19, 1907, in his thirty-sixth year. Dr. Ide graduated from the College of Physicians and Surgeons of Chicago in 1894.

CLARK LEAVITT, M.D., a member of the Vermilion County Medical Society since its organization, died at his home in Danville, Ill., December 19, after an illness of about six months, aged 73.

DR. O. K. REYNOLDS, formerly of Fieldon, Jersey County, and Kane, Greene County, died in Oklahoma Jan. 14, 1907. The doctor had resided in Oklahoma for about two years. He was nearly 74 years of age.

JOHN W. FRANKLIN, M.D., Kentucky School of Medicine, Louisville,



JACOB SCHNECK, M.D.

1865; one of the oldest practitioners of Coles County, Illinois, died suddenly at his home in Diona, Ill., from rheumatism of the heart, December 19, aged 67.

MARK M. THOMPSON, M.D., a member of the American Institute of Homeopathy and a professor in the Chicago Homeopathic College, was struck by a train, December 27, at Austin, Ill., and died a short time after, aged 51.

ROYAL PORTER WALES, M.D., Homeopathic Medical College of Missouri, St. Louis, 1861; a member of the American Medical Association and one of the early physicians of Carroll County, Illinois, who lived at Lanark for many years, died at his home in Colorado Springs, Colo., January 1, after a long illness, aged 67.

JACOB SCHNECK, M.D., graduate Chicago Medical College, 1871, died at his home in Mt. Carmel Dec. 18, 1906. Dr. Schneck was a member of the American Medical Association, Illinois State Medical Society and the Railway Surgeons' Association. He was surgeon for the Cairo division of the Big Four system and Illinois Central Railroad.

He graduated from Rush in 1902, in the same year located at New Boston. He leaves a wife, to whom he was married in 1904, and one son, John I., about a year old. He was mayor of New Boston at the time of his death; had been president of the County Society and was a member of the Masonic and Knight Templar bodies and of the Odd Fellows.

HARRY S. ALLEN, M.D., son of Dr. J. S. and Florence C. Allen, died at his home in New Boston, Jan. 18, 1907, from malignant growth involving the abdominal organs. He graduated from Rush in 1902, in the same year located at New Boston. He leaves a wife, to whom he was married in 1904, and one son, John I., about a year old. He was mayor of New Boston at the time of his death; had been president of the County Society and was a member of the Masonic and Knight Templar bodies and of the Odd Fellows.

BOOK NOTICE.

AMERICAN PRACTICE OF SURGERY. A Complete System of the Science and Art of Surgery by Representative Surgeons of the United States and Canada. Editors: J. D. Bryant, M.D., and A. H. Buck, M.D., New York City. Complete in eight volumes. Illustrated. Vol. I, Cloth, pp. 818. Price, \$7.00. New York: William Wood & Co., 1906.

Probably no more capable editors of a system of surgery can be found than Prof. J. D., Bryant, President of the American Medical Association and author of a popular surgical work, and A. H. Buck, of New York, who has been engaged for a number of years in work of this kind.

The first volume of this system has been received and promises well for the remaining volumes. The introduction of "The Evolution of American Surgery," by Dr. Stephen Smith, of New York City, is a splendid effort by that nestor of American surgery. Dr. Smith's career dates from the early fifties and has been such that he has personally known nearly every one of the prominent American surgeons who have brought about results in the past hundred years.

The other articles are of a high standard by authorities on the particular subjects treated.

The volume is beautifully printed, the paper is good, the type clear and illustrations excellent. Our readers should certainly have this series in their libraries.

REPORT OF THE COUNCIL ON PHARMACY AND CHEMISTRY.

We reprint herewith from *The Journal* of the American Medical Association, for September 15, the first installment of the report of the Council on Pharmacy and Chemistry. Additional installments will appear from time to time. The importance of these reports is too evident to need comment. For the first time in the history of the organized profession, a scientific commission, whose ability and probity is above suspicion, has reported on preparations regarding which heretofore we have had only the report of those interested, financially and otherwise, in their exploitation.

ACETOZONE.

A mixture of equal parts of benzoylacetyl peroxide and an inert absorbent powder.

Actions and Uses.—Benzoylacetyl peroxide belongs to a class of compounds known as the organic peroxides in which an excess of oxygen has been combined in such a way that it is somewhat slowly given off in a nascent condition. On contact with water it hydrolyzes, forming benzo-peracid and aceto-peracid which exert marked oxidizing and germicidal action. In consequence of this change, these compounds are thought to be particularly adapted for internal administration. The germicidal and antiseptic properties of this substance have been attested by the experimental results of several observers. It has been used in ophthalmic, aural and nasal practice with asserted good effects as an antiseptic. It has also been applied internally, especially in typhoid fever, with a view to the disinfection of the intestinal canal, and appears to be an intestinal antiseptic. **Dosage.**—Acetozone is generally employed in aqueous solution prepared as follows: Add acetozone to warm water in the proportion of 1 Gm. to 1000 Cc. (15 grains to the quart), shake vigorously for five minutes, and allow to stand for about two hours. Decant the liquor as required. This solution may be drunk *ad libitum*, two quarts or more being taken by an adult in twenty-four hours. Acetozone is also used in oily solution as an inhalant. Manufactured by Parke, Davis & Co., Detroit, Mich.

ACETOZONE INHALANT.

A solution of benzoylacetyl peroxide in liquid petrolatum. Formula: One hundred grammes contain: Benzoylacetyl peroxide, 1.0 Gm.; chloretone (chlorbutanol), 0.5 Gm.; Refined liquid petrolatum, 98.5 Gm.

Dosage.—It is to be inhaled in the form of a very fine spray, or nebula, best produced by an atomizer especially designed for oily liquids. Prepared by Parke, Davis & Co., Detroit, Mich.

ACET-THEOCINSODIUM.

Acet-theocinsodium, $C_7H_7N_3O_2Na + CH_3COONa$, a double salt of sodium acetate and 1.3 dimethylxanthine-sodium (theophyllinsodium).

Actions and Uses.—It has the diuretic properties of theocin, reinforced by the diuretic action of sodium acetate, and, being more soluble, it has been claimed to be more readily absorbed and better tolerated than theophylline. It is recommended in cardiac affections, nephritis, dropsy, etc. **Dosage.**—0.2 to 0.35 Gm. (3 to 5 grains), best given after meals. Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color and Chemical Co., New York).

ADNEPHRIN EMOLLIENT.

Recommended as a local application where prolonged use is required. Prepared by F. Stearns & Co, Detroit, Mich.

ADNEPHRIN OIL SPRAY.

The preparation is applied as a spray to the mucous membranes in congestive and inflammatory affections, preferably after washing with Dobell's solution. Prepared by F. Stearns & Co., Detroit, Mich.

ADNEPHRIN SOLUTION.

A sterile solution 1-1000 of the suprarenal active principle in physiologic salt solution containing one-half of one per cent. of methaform (chlorbutanol).

Actions and Uses.—The actions and uses of this preparation are described

under Suprarenal Alkaloid. Dosage.—The dose internally is from 0.2 to 2.0 Ce. (3 to 30 minims) in water. Adnephrin is also used in oily solution as a spray, see Adnephrin Oil Spray, and in the form of ointment, see Adnephrin Emollient. Prepared by F. Stearns & Co., Detroit, Mich.

ADRENALIN.

The active alkaloid of suprarenal gland, prepared by the method of Takamine, see Suprarenal Alkaloid.

Dosage.—Locally, 1-1000 to 1-15000 solution, as the chloride. Internally, 0.3 to 2 Ce. (5 to 30 mm.) of 1-1000 solution. Hypodermically, 1 to 15 drops of 1-1000 solution, diluted with sterile water. Manufactured by Parke, Davis & Co., Detroit, Mich.

ADRENALIN CHLORIDE SOLUTION.

Dosage.—See adrenalin. Prepared by Parke, Davis & Co., Detroit, Mich.

ADRENALIN SUPPOSITORIES.

1 part of adrenalin to 1000 parts of oil of thebroma (cocoa butter). Each suppository weighs about 1 Gm. (15 grains). Prepared by Parke, Davis & Co., Detroit, Mich.

AGURIN.

Agurin, $C_7H_7N_4O_2Na + NaC_2H_3O_2$, a double salt of sodium acetate and theobromine-sodium.

Actions and Uses.—It acts like theobromine, over which it has the advantage of great solubility and that it is well tolerated by the stomach. While inferior in diuretic power to theophyllin (which see), it is said to have greater power in sustaining the diuresis produced. Dosage.—0.5 to 1 Gm. (7 to 15 grains), preferably in wafers or capsules. If in solution, this should be freshly prepared (with peppermint water) and without sugar or mucilage. Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York).

AIROL.

Airol, $C_6H_2(OH)_2(COOBi(OH)) = C_7H_2O_6Bi$, a combination of bismuth oxyiodide (subiodide) and gallic acid.

Actions and Uses.—As it liberates iodine in the nascent state in the presence of wound secretions it has been recommended as a desirable and efficient substitute for iodoform in the treatment of wounds, burns, skin diseases, gonorrhea, etc. Dosage.—It is used externally in the pure state or diluted with tale, or in the form of a 10 per cent. suspension in equal parts of glycerin and water, or as a 10 to 20 per cent. ointment with 2 parts of petrolatum and 7 parts of wool fat. Manufactured by F. Hoffman-LaRoche & Cie., Basle, Switzerland (The Hoffman-LaRoche Chemical Works, New York).

ALPHA-EUCAINE HYDROCHLORIDE.

Alpha-eucaine hydrochloride is the hydrochloride of benzoyl-methyl-oxypiperidine-carbonic methyl ester.

Actions and Uses.—The action of alpha-eucaine is similar to that of cocaine, but it is regarded as three and three-fourths times less toxic than cocaine. In large doses it first stimulates and then paralyzes the central nervous system; it slows the heart and produces a fall of blood pressure. Locally it acts like cocaine as an anesthetic, but dilates the blood vessels instead of contracting them. It does not dilate the pupil. It is more irritating to the mucous membrane than cocaine or than beta-eucaine. It has a moderate bactericidal action. It is used as a substitute for cocaine in general and minor surgery, but beta-eucaine is preferred for applications to the eye. Dosage.—2 to 5 or even 9 per cent. solutions. Not more than 2 Ce. (30 minims) of a 4 per cent. solution should be used at one time. Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin (Schering & Glatz, New York).

ALPHOZONE.

Alphozone, $(COOH.CH_2CH_2CO)_2O_2 = C_6H_8O_8$, an organic peroxide resulting from the action of hydrogen dioxide on succinic anhydride.

Actions and Uses.—Alphozone belongs to the class of organic peroxides, and by its powerful oxidizing power becomes a germicide and antiseptic. Dosage.—Alphozone is also marketed in the form of tablets containing, each 0.065 Gm. (one grain), of alphozone, which are used for making solutions, one tablet to 60 Ce. (2 fluid ounces) of water giving a solution (1 to 1000) suitable for general external use; but, as a nasal douche, one tablet in 180 Ce. (6 fluid ounces) of water is often preferred. Manufactured by F. Stearns & Co., Detroit, Mich.

ALUMNOL.

The aluminum salt of β -naphtholdisulphonic acid, $\text{Al}_2(\text{C}_{10}\text{H}_7\text{OH}(\text{SO}_3)_2)_3 = \text{Al}_2\text{C}_{30}\text{H}_{18}\text{O}_{12}\text{S}_6$.

Actions and Uses.—It is an astringent and mild antiseptic. It is claimed that it can be used as a mild astringent, an irritant or a caustic, according to the strength of the solution, and it is asserted that it exerts a peculiarly destructive action on gonococci. It has been recommended for a variety of affections in which a caustic, astringent or antiseptic is indicated. It has been particularly recommended for gonorrhea in females, especially when affecting the endometrium. **Dosage.**—As a surgical antiseptic, in 0.5 to 3 per cent. solutions; in gynecology, in 2 to 5 per cent. solutions; in otology and laryngology, either as powder or in $\frac{1}{4}$ to 1 per cent. solution as douches, washes or gargles; as cautery, in 10 to 20 per cent. solution. Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M. (Victor Koechl & Co., New York).

AMINOFORM.

A name applied to Hexamethylenamina, U. S. P. Sold by C. Bischoff & Co., New York.

ANESTHESIN.

Anesthesin, $\text{C}_6\text{H}_4(\text{NH}_2)(\text{COOC}_2\text{H}_5) 1:4 = \text{C}_6\text{H}_{11}\text{O}_2\text{N}$ the ethyl ester of paramido-benzoic acid, obtained by the reduction of paranitrobenzoic acid.

Actions and Uses.—It was introduced as a substitute for cocaine and is a local anesthetic, similar in its action to orthoform and said to be equally effective, but free from irritant action and toxicity. The anesthetic action, like that of the related compound orthoform, resembles that of cocaine, but is purely local, does not penetrate the mucous membranes, and in consequence of its insolubility the compound can not be used by hypodermic injection. In consequence of its insolubility the anesthetic effect is more prolonged than that of cocaine. It is recommended in various forms of gastralgia, in ulcer and cancer of the stomach for the relief of pain, and is applied locally in rhinologic and laryngeal affections, urethritis, etc.; it is also recommended for anesthetizing wounded surfaces, burns, ulcerations and painful affections of the skin. It is more effective in cases where the skin is broken. **Dosage.**—Internally, 0.3 to 0.5 Gm. (5 to 8 grains), in pastilles. Externally it is applied as a dusting powder, either pure or diluted. It may be applied as an ointment or in the form of suppositories. Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M. (Victor Koechl & Co., New York).

ANTIPYRINE SALICYLATE.

Antipyrine salicylate, $\text{C}_{11}\text{H}_{12}\text{N}_2\text{O}_6\text{C}_6\text{H}_4\text{OH.COOH} = \text{C}_{18}\text{H}_{18}\text{N}_2\text{O}_8$, a weak chemical combination of antipyrine and salicylic acid.

Actions and Uses.—This compound possesses the properties of both antipyrine and salicylic acid and combines the analgesic power of the one with the antirheumatic action of the other. It has been used with good results in sciatica, rheumatic fevers, chronic rheumatism, influenza, pleurisy, dysmenorrhea, etc. **Dosage.**—0.3 to 2.0 Gm. (5 to 30 grains) in cachets or capsules.

ANTITHERMOLINE.

A name applied to a preparation said to be made according to the following formula: Each pound contains 4000 grains of imported washed kaolin, washed and purified, 14 grains boric acid, 14 grains oil of eucalyptus, menthol and thymol combined, and 4.9 fluid ounces of glycerin. It closely resembles the Cataplasma Kaolini, U. S. P. Prepared by G. W. Carrick Co., New York.

(To be continued.)

PROPOSED LEGISLATIVE ACT FOR OSTEOPATHY.

There has been introduced in the present legislature a bill "For an act to regulate the practice of osteopathy in the State of Illinois, to provide for a Board of Osteopathic Examination," etc., which is similar to the one introduced during the session of the last legislature and which failed to become a law. The present bill was introduced in the senate by Senator Chaffee, and is known as "Senate bill No. 21." It was also introduced in the house by Representative Allen, and known as "House bill No. 66."

The point which particularly interests the medical profession of the state, without regard to any particular school of practice, is that of the rights conferred upon licentiates under this act, which is described in Section 3, and which reads as follows:

"After examination, as hereinbefore provided, the board shall, if it find the applicant qualified, grant a license to said applicant to practice osteopathy, which license, after the payment of the fees as hereinafter provided, shall be signed by all the members of the board and attested by the secretary and seal of the board. Osteopaths, when so licensed, shall have the same rights and privileges and be subject to the same laws and regulations as physicians from other schools of medical practice, but shall not have the right to practice major surgery or to practice drugs otherwise than in the use of antiseptics, anesthetics and antidotes for poisons."

It will be readily seen that this can be so liberally construed as to confer upon osteopaths every right and privilege that is enjoyed by the practitioner of general medicine, surgery and obstetrics. It would be a long step backward in the medical legislation in the State of Illinois if this act should become a law. It was opposed by the State Board of Health at the last session of the legislature and has the disapproval of that board at this time. The legislative committee of the Illinois State Medical Society calls upon every practitioner who has been obliged to take a regular course in medicine and surgery before coming into possession of the above rights, to oppose by every honorable means the enactment of this bill. We therefore ask the physicians in the different senatorial districts of the state to use their combined influence in every honorable way to influence their representatives in the legislature to vote against the enactment of this measure.

L. C. TAYLOR,
J. V. FOWLER,
M. S. MARCY,

Legislative Committee Illinois State Medical Society.

COMMITTEES ON APPROPRIATIONS IN THE STATE LEGISLATURE.

Below is a list of the Committees on Appropriations in the State Legislature, showing the medical society in each member's district. These committees now have under consideration the recommendations of the State Board of Charities, viz., improvements in existing institutions, building an epileptic colony, a tubercular colony, the use of free antitoxin.

Let the officials of each medical society urge their representatives on the committees to approve these recommendations. Let all physicians throughout the state do likewise. Especially let the family physician of these respective members use his influence. His word properly has great weight with his patient. Emphasize the industrial, economical and educational value of the epileptic and tubercular colonies as outlined by Dr. Billings in the January issue of THE JOURNAL. Write, and also see your representative on the committee—and do it now. He is at home Saturdays and Sundays.

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Chas. H. Hughes.....	Dixon, Ill.....	Lee Co. Med. Soc.
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Homer K. Galpin.....	729 W. Monroe St., Chicago.....	Chicago Med. Soc.
B. Frank Baker.....	Kewanee, Ill.....	Henry Co. Med. Soc.
Frank A. Landee.....	Moline, Ill.....	Rock Island Co. Med. Soc.
Ira M. Lish.....	Saukemin, Ill.....	Livingston Co. Med. Soc.
H. H. Evans.....	Aurora, Ill.....	Kane and McHenry Co. Med. Soc.
Richard J. Barr.....	Joliet, Ill.....	Will Co. Med. Soc.
C. F. Hughburgh.....	Galesburg, Ill.....	Knox Co. Med. Soc.
Ed. C. Curtis.....	Grant Park, Ill.....	Kankakee Co. Med. Soc.
Niels Juul.....	443 Potomac Ave., Chicago.....	Chicago Med. Soc.
Logan Hay.....	Springfield, Ill.....	Sangamon Co. Med. Soc.
S. C. Pemberton.....	Oakland, Ill.....	Coles Co. Med. Soc.
D. A. Campbell.....	1209 Washington Blvd., Chicago.....	Chicago Med. Soc.
Chas. E. Hull.....	Salem, Ill.....	Marion Co. Med. Soc.
F. W. Burton.....	Carlinville, Ill.....	Macoupin Co. Med. Soc.
G. W. Cunningham.....	Pekin, Ill.....	Tazewell Co. Med. Soc.

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Cicero J. Lindley.....	Greenville, Ill.....	Bond Co. Med. Soc.
Albert Glade.....	9 N. Curtis St., Chicago.....	Chicago Med. Soc.
Josiah Kerriek.....	Minok, Ill.....	Woodford Co. Med. Soc.
Charles M. Gaunt.....	Mound City, Ill.....	Pulaski Co. Med. Soc.
Edward J. Smijkal.....	77 Bunker St., Chicago.....	Chicago Med. Soc.
Israel Dudgeon.....	Morris, Ill.....	Grundy Co. Med. Soc.
Cassius M. Coyle.....	Gridley, Ill.....	McLean Co. Med. Soc.
James M. Kittelma.....	Berwyn, Ill.....	Chicago Med. Soc.
Frank J. Heintz.....	Jacksonville, Ill.....	Morgan Co. Med. Soc.
Fred Keck.....	Belleville, Ill.....	St. Clair Co. Med. Soc.
Paul J. Zaabel.....	867 W. Taylor St., Chicago.....	Chicago Med. Soc.
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Seymour Hurst.....	Marshall, Ill.....	Clark Co. Med. Soc.
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ILLINOIS STATE MEDICAL SOCIETY

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This list is corrected in accordance with the best information obtainable at the date of going to press. County secretaries are requested to notify THE JOURNAL of any changes or errors.

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Platt County.
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ORIGINAL ARTICLES

PERINEAL PROSTATECTOMY, THE OPERATION OF CHOICE.*

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CHICAGO.

Many reasons may be adduced in favor of perineal prostatectomy versus suprapubic. In the first place, the prostate is situated external to the bladder and is closer to the perineal skin than it is to the anterior abdominal wall. While the bladder may occasionally be injured in removing the pedunculated middle lobe through the perineum, the injury is slight as compared to that in suprapubic prostatectomy, where the bladder is invariably injured anteriorly as well as interiorly. The removal of the prostate gland in all cases where elevations of prostatic tissue extend upward and carry the bladder over them, and where the gland itself is laterally enlarged, is executed perineally without any encroachment on the bladder whatever.

Speaking of injury to the bladder, I must say that suprapubic prostatectomy invariably results in the permanent fixation of the bladder above the pubis, a condition certainly not beneficial to that viscus in aiding or improving its contractility or general usefulness. Is it possible that the great amount of insult inflicted on the bladder in reaching the prostate suprapubically is borne with impunity? Is it not reasonable to attribute the great shock following suprapubic prostatectomy to the traumatism of the bladder and to hemorrhage? Is not censure invited by traversing a septic viscus twice? The technic of the suprapubic route usually removes the prostatic urethra entirely, blindly destroys the ejaculatory ducts, tears away at least a portion of the membranous urethra, and leaves a raw cavity, from which these structures have been evulsed and which were then ready to be filled with septic material from the bladder which cannot properly be drained without opening the perineum.

Extravasation of urine sometimes takes place into the prevesical and subvesical spaces, though a preliminary operation guards somewhat against the former. Operators who choose the hypogastric operation are tiring of

* Read before the Section on Surgery of the Illinois State Medical Society, at Springfield, May 15-17, 1906.

the complicated after treatment of their cases and are resorting to perineal drainage of the prostate from above. After the operator enters the bladder and cuts through the mucous membrane over the prostate, the hemorrhage is not infrequently alarming, demanding hot water, clamps, packing or even suture for its control. If drainage through the perineum is called for, and I think it is, why not enter the perineum primarily, neatly and safely enucleate the prostate, or, if difficult to turn out, use the cutting forceps and remove it piecemeal, thus eliminating all the above-mentioned dangers?

The perineal operation requires more skill, knowledge and dexterity than the suprapubic. One surgeon told me that on account of the large size of his fingers, it was a physical impossibility for him to remove the prostate through the perineum without undue traumatism. The operator with long fingers has the advantage over the one with short fingers, in reaching the prostate nodules situated high up. The latter has to resort frequently to the use of intra-vesical instruments to pull the prostate down to aid in its enucleation or extraction.

In looking over the literature, it is remarkable to note the few cases that die from different kinds of septic invasion after perineal prostatectomy, and the large number, four or five times as many, that die after the suprapubic operation. It is my opinion that drainage, which is so complete after perineal prostatectomy, accounts for the small mortality through sepsis. Even in this advanced age of surgical technic, some operators would have us believe that suprapubic drainage is just as thorough as the perineal, after prostatectomy. It is only a few years ago, that abdominal drainage after pelvic operations was considered less dangerous than vaginal drainage. The results of the latter have proven to be so satisfactory that no surgeon now thinks of punishing his patient and nurse with the use of the glass pump every 15 minutes, as was done formerly. Drainage of the most dependent part of any septic cavity is a necessary practice in surgery long known and confirmed. No complete prostatectomy should, in my opinion, be performed without perineal drainage.

A fact in favor of the perineal operation is that as its technic improves, the complications, sequelæ and mortality diminish. In cases of long standing, with stone, cystitis and diverticula, there will be some instances of more or less incontinence of urine, irrespective of the operation performed, on account of the chronic sclerosis of the neck of the bladder interfering with sphincter contractility.

Mortality after prostatectomy is the subject of a paper by Drs. Tenney and Chase,¹ in which they accept as possibly due to the operation every death occurring within six weeks. I extract the following from their paper:

	Perineal.	Mortality, per cent.	Suprapubic.	Mortality, per cent.
Proust	813	7.13	244	12.0
Watson	530	6.2	263	13.3
Escat	382	11.0	164	18.0
Tenney and Chase	617	7.6	396	9.8

1. Journal A. M. A., May 12, 1906.

In this table, 2,342 cases were operated on through the perineum and 667 suprapubically. It will be seen that the average mortality by the perineal route is $7.9 + \%$. The average mortality by the suprapubic operation is $13.2 + \%$, which is nearly twice the mortality of the operation through the perineum. It seems to me that if these facts regarding mortality were laid before every patient (and honesty demands it) contemplating prostatectomy, the operation selected in every case would be the perineal operation. It is also quite possible that by the time the number of suprapubic operations amount to 2,342, the rate of mortality would also increase. In supporting perineal prostatectomy, no better argument can be used than its lower rate of mortality as compared to the suprapubic operation.

M. Tuffier (Treatment de L'Hypertrophie De La Prostate. Report Au XV. Congress International de Medicine, 1905) believes that the suprapubic operation is easier and quicker to perform than the perineal. When the gland is very small and the abdomen very fat, he selects the perineal route. He points out that the mortality is lower by the perineal operation. The average being 6.23 per cent. out of a total number of 2,227 cases operated on by a large number of different operators. He says that renal insufficiency is the cause of death in about the same number of cases in both operations (35 per cent. perineal and 33 per cent. suprapubic). Shock is given as the cause of death, in perineal, 17.8 per cent. and 22 per cent. suprapubic.

Operator.	No. of Cases.	Mortality.
Proust	1192	6.6
Watson	530	6.2
Horwitz	161	5.7
Leque	45	8.8
Hartman	56	9.0
Pauchet	53	7.0
Haffin	32	6.2
Young	75	2.6
Albarran	73	4.0
	2227	56.1 % = average 6.23 %.

Tuffier relates, that in Freyer's last 36 cases, he lost but one (suprapubic), and puts this on record as a percentage basis of 2.74 per cent., which is obviously incorrect, for per cent. means per 100 and not per 36 cases. It is but fair to point out that Freyer lost 6 cases in the previous 64. His conclusions are as follows: The general mortality is about 4 per cent. in perineal prostatectomy. Re-establishment of spontaneous urination and relief of vesical infection are the rule. The age of the patient or the lesions are not contra-indications. The relative integrity of renal activity is necessary; the presence of all grave organic diseases, such as diabetes and albuminuria, increases the danger of shock; the two methods have their advantages and disadvantages, and when combined apply themselves to special cases. The literature bearing on complications and sequelæ is not as full as one might suppose.

Young had 50 cases (perineal); saved sexual power in 22, but in 10 of these this power was impaired before operation. Rectal fistulæ resulted in 4 cases; epididymitis 6 cases; 1 had incontinence. Walker cited 73 cases by Freyer (suprapubic). One died of uremia; 1 of bronchitis; 3 of pneumonia and 4 because of stone in the bladder.

McLaren had 13 cases, all perineal. One died of double pyelonephritis; 5 had stone in the bladder, 3 having secondary stone and 1 incontinence from urethral fistula. Phillips, in 199 perineal operations collected, had 21 deaths; 9 recto-urethral fistulæ; 2 secondary hemorrhages; 6 urethral fistulæ; 7 dribbling of urine; 1 stricture; 1 stone; 5 epididymitis. Watson reports 245 cases, all perineal. In 2 of these cases the peritoneum was opened; 7 had recto-urethral fistulæ; 9 incontinence; 7 of these point to accidents in 22 per cent. In suprapubic operations, incontinence and fistulæ in 6 per cent.

Escat, 410 cases (perineal), 11.3 per cent. mortality; 8 cases recto-fistulæ; incontinence 3 per cent.

Alberan, 66 cases (perineal), 2 deaths. Complete chronic retention in 34 cases before operation, 2 cases of residual urine, a few ounces after operation.

Goodfellow, 73 cases (perineal), 2 deaths. One after a few hours and the other after 11 days, due to sepsis; no permanent fistulæ. Partial incontinence in several cases among men over 70 years of age.

Murphy had only 1 death in 34 cases (perineal) and Simms only 1 death out of 30.

It must be remembered that owing to old age, kidney, bladder and other complications, prostatectomy is a major, both suprapubic and perineal. The final results of the mortality largely depend upon the extent, on the pathology, selection and preparation of the patients as well as upon the skill of the operator.

In my own cases I had no deaths in the first series of 21. Following that I lost 3 cases, 1 from renal insufficiency in 48 hours. This was considered a very unfavorable case for any operation. Another patient died in 12 hours from an over dose of morphin; and a third succumbed on the ninth day, an unfavorable case because of old age and emaciation. This makes my mortality between 3 and 4 per cent. in 103 cases and does not include 5 deaths following prostatectomy, 3 from carcinoma and 2 from acute tuberculosis.

There have been no permanent fistula even in those with pus-furnishing bladders, which were inflamed, trabeculated and with stones, pouched or diverticulated. The natural tendency of the perineum is to close spontaneously, but so long as pus emits, a fistula is likely to persist or to recur. I had two of these cases. Injury to the rectum during an operation is more of a blunder than an accident, and secondary rectal fistulæ are caused most frequently by rough treatment from the eighth to the twelfth day when granulation is profuse. This latter has occurred in the case of two of my patients in whom the after-treatment was not carried out by myself.

I have made the statement that in uncomplicated cases of hypertrophied prostate, *per se*, my mortality is only about 1 per cent.; but how many cases, owing to age, do we find without some complication? Three patients were wearing urinals on account of partial incontinence, which was much more acceptable to them and their relatives than death. One of these, 70 years of age, accepted

the operation only when life became intolerable from pain due to cystitis, etc. Considerable sloughing, at the seat of operation, from the skin inward, occurred. Stone in the bladder was present in 6 cases. There was one man with impotence following the operation, who avers that two nights before the prostatectomy he proved his vigor. There was 1 case of stricture secondary to operation which was cured by perineal section. Five patients had epididymitis. One patient had unilateral (left) intra- and extra-nephritic abscess develop three weeks after the operation. I cured this by incision and drainage.

Before closing I wish to say a few words regarding the operation through the perineum. It is not always necessary to pass a grooved staff through the penis; a sound will do, and I have performed the operation without guide *per vias naturales*. The preferable position in which to hold the patient is that known as the extralithotomy position. While I prefer to open the membranous urethra and proceed down to the sinus pocularis at the point in the prostatic urethra where the ejaculatory ducts open (this sinus, although small in the normal, is not infrequently enlarged in those suffering from prostatic hypertrophy), still I have frequently removed the prostate without any injury whatever to the membranous urethra.

After splitting the capsule laterally it is best to enucleate the lateral lobes first, carefully dissecting them away from the prostatic urethra without injuring the ejaculatory ducts. This procedure is more difficult in some cases than in others, depending upon the fibrous attachments between the prostate and its urethra. The finger is pressed into the prostatic urethra and acts as a guide while these attachments are cut or taken away piece by piece by biting or cutting forceps. So long as the fibrous partition which protects the ejaculatory ducts is not torn through nor injured these ducts are not destroyed. When the ejaculatory ducts are pushed to one or both sides of the prostate and the hypertrophy raises into the bladder like a plateau, then I use the depressor and insert it into the bladder through the perineum to aid the finger in accomplishing the enucleation.

It may be necessary to follow prostatic nodules in more than one direction behind the bladder, and in their removal care should be taken not to injure the vesical sphincter. It is not wise to tear them out forcibly with the finger, but rather to remove these nodules, piece by piece, with the biting forceps. In a certain percentage of cases the so-called pathologic middle lobe (and what else can we call it when it is in the middle), whether projecting into the bladder anteriorly or posteriorly, is followed and removed as described above when it has broad attachments to the lateral lobes. On the other hand, it is frequently pedunculated and the hypertrophied prostatic tissue is found within the bladder like a polypus. The pedicle may be without any prostatic tissue in it whatever, and it would be utterly impossible to follow it by its original route on account of its being shut off by fibrous tissue. Then it must be removed by way of the internal vesical orifice. The finger is passed into the bladder, the polypoid prostatic tissue is detected and

seized by the forceps. In cases in which it is not necessary to preserve the procreative power the ejaculatory ducts are deliberately severed and this expedites and facilitates the performance of the operation.

I admit that it is sometimes impossible to save the upper portion of the prostatic urethra, especially when the prostatic enlargement completely encircles it. Still, it is not necessary to remove the entire prostatic urethra as is done by the suprapubic route. It is possible to remove the entire gland in one piece without injury to the bladder, ejaculatory ducts or prostatic urethra in suitable cases. Large forceps materially aid in seizing and holding large masses of tissue. When the prostate is a bar of tissue at the neck of the bladder or is a stricture at the internal vesical meatus, with or without a protrusion, these conditions are usually noticed early in the operation and treated by dilation or removal by the cutting forceps.

To refer again to the ejaculatory ducts, if the person treated is young and vigorous and it is very desirable for him to retain his procreative functions, then another expedient may be resorted to which aids as a guide to save the ducts. The inguinal region is opened, the vas deferens is sought and opened at the internal ring, and a fine probe is passed through the vas deferens to the sinus pularis in the prostatic urethra. The best material that I have found for catheterizing the vas deferens and ejaculatory ducts from without inward, is very fine aluminum bronze wire, 36 inches long and doubled on itself. The doubled end will readily pass through the seminal duct and can be felt in the prostatic urethra. Some of these cases have an oblique inguinal hernia, and this affords an opportunity and also an additional excuse to perform this catheterization in suitable cases.

Should it be impossible to catheterize the ejaculatory ducts from without inward then a solution of methylene blue can be forced through into the prostatic urethra which stains the mucous membrane of the ejaculatory ducts and prostatic urethra. This, however, does not act as a guide to prevent their injury, but it indicates when they are injured, and then examined with the microscope. I make it a practice to stain the mucous membrane of the prostatic urethra and bladder in all cases subjected to prostatectomy. Care must be exercised to wash the methylene blue out of the bladder before beginning to operate and in its place leave a solution of boric acid sufficient to distend the bladder to its utmost.

DRAINAGE.—Nearly all my patients were drained through the perineum. I am convinced that the technic is improved and convalescence is shortened by drainage through the penis by an ordinary retention catheter, No. 23, American. The membranous and prostatic portion of the urethra are closed by a few stitches of No. 1 chromic catgut, and the deep wound is drained by gauze alone at the most dependent part, and all the structures of the perineum are coapted by an interrupted suture of silkworm gut. The gauze drainage in the perineum is removed on the third day and replaced; in a couple of days this gauze is withdrawn, but the retention catheter is left in the bladder and external urinary

tract for a week. During this time should temperature develop or vesical tenesmus arise, it is well to wash out the bladder three or four times a day with a mild antiseptic solution. I have obtained perfect results by the above technic.

After the catheter is removed, retention of urine is likely to ensue from spasmodic contraction of the neck of the bladder. This is rather a good sign, for it indicates that the sphincter of that viscus has not been injured and the retention is easily rectified by the use of the catheter. I have seen men become greatly discouraged and even melancholic after prostatectomy, especially when temporary control of the urine is partly or wholly absent. But just as soon as the bladder again performs its function properly, they become bright, cheerful and hopeful. After prostatectomy the patient should be kept under supervision for about three months, because repair is not complete until about that time. Should the patient not be bougied occasionally, at least once a week while repair is going on, stricture at the neck of the bladder or at the junction of the membranous and prostatic urethra is likely to occur. I have found it necessary to perform a secondary perineal section in two cases for stricture following prostatectomy; one at the neck of the bladder and the other at the junction of the membranous and prostatic urethra. For the latter I blame the perineal drainage alone.

It is remarkable that atony of the bladder subsides completely in the vast majority of cases, but some bladders never become capable of emptying themselves after prostatectomy without considerable delay and difficulty. There is also a tendency to cystitis.

It must be remembered that patients with prostatic hypertrophy are usually more or less pathologic specimens of humanity in their entirety, and that prostatectomy, although a great boon to them, is not an elixir of life.

EXOPHTHALMIC GOITER.*

S. M. MILLER, M.D.

PEORIA.

Our knowledge of the causes of pathologic alterations in the function of the thyroid gland is vague. The symptoms and conditions resulting from derangements of function are well defined, but of their pathogenesis, less is known. Exophthalmic goiter is a disease characterized by a definite symptom group, the result of an excess of circulating gland secretion. Whether the hyperthyroidism is the result of disease of the gland primarily, or whether the changes in the gland are secondary to lesions elsewhere, is a problem upon the solution of which hinges the various theories of the causation of the disease.

Our present knowledge of the disease rests on the following experimental and clinical data:

* Read at the Meeting of the Illinois State Medical Society, held at Springfield, May, 1906.

1. Removal of the thyroid gland, leaving the parathyroids, causes myxedema.

2. Thyroid gland extract administered to cases of myxedema causes immediate improvement, and thyroid grafting has cured cases of myxedema.^{7, 8.}

3. Partial removal of the parathyroid glands causes symptoms of Graves' disease to appear.

4. Thyroid gland extract administered in excess causes symptoms like those of Graves' disease to appear.

5. Removal of the parathyroid glands *in toto* causes tetany and death.¹¹

From a consideration of these facts, it is evident that the thyroid gland elaborates substances necessary to metabolism, that these must be made in definite amounts to preserve a balance necessary to health. If the amount is too small, myxedema results; if in excess, Graves' disease appears. A disproportion either way results in forms of poisoning, which are the counterpart of each other. Experimentally and clinically, the symptoms of Graves' disease are due to an imbalance between the secretion of the thyroid gland, and that of the parathyroid, in which either the thyroid oversecretes, or the parathyroid undersecretes, with an unneutralized excess of the internal secretion of the thyroid gland. Tetany is due to a complete loss of the same secretion.

As the maintenance of normal metabolism depends on the maintenance of an exact balance between the thyroid and antithyroid bodies, it is conceivable that the balance may be readily disturbed with moderate degrees of hyperthyroidism—so slight and atypical as not to give rise to marked symptoms of Graves' disease. It is likely that many cases that we class as neuroses, hysteria, neurasthenia, etc., characterized by palpitation, dizziness, sleeplessness and various subjective symptoms for which we find no adequate explanation, may be derangements of the balance. It will be well to bear this possibility in mind and to scrutinize these patients for symptoms of Graves' disease that might otherwise escape our notice. These milder cases, more difficult to diagnose, if they do not develop, are known as larvated cases⁶. For the diagnosis of Graves' disease, one at least of the four cardinal symptoms, the enlarged gland, exophthalmos, tachycardia, or tremor must be present, associated with numerous minor symptoms, usually of a neurasthenic nature. Many such cases of imbalance between thyroidin and antithyroidin escape notice, and I believe that exophthalmic goiter in its milder manifestations is more common than we have usually regarded it.

The following case is an unusual example of this class: A girl 21 years old, who sews in a cloak store, has complained for several months of headache, moderate loss of strength, palpitation and nervousness, so that she is easily irritated, and she does not sleep well. There is a moderate enlargement of the thyroid gland, and tremor, which she herself has noticed on threading needles. There is no exophthalmos. The pulse is below 100. A short time ago, she had a tonic contracture of the right sternomastoid muscle, which came on suddenly one afternoon, without

cause, and lasted six or eight hours, gradually subsiding. The chin was drawn to the left, and the head was tilted over to the right shoulder. The spasm was accompanied by a cramping pain, so that she could not straighten her head, and attempts to do so elicited severe pain. She has improved with rest and relaxation, after withdrawing from the too confining occupation. In this case the neck spasm might easily be mistaken for a hysterical manifestation if she were not examined with sufficient care, as the symptoms of Graves' disease are overshadowed by the neurasthenic manifestations.

As exophthalmic goiter is a hyperthyroidism, and myxedema is due to a deficiency of the internal secretion of the thyroid gland, and as myxedema patients are cured by thyroid extract, it is argued conversely that myxedema serum should exert a favorable effect in cases of Graves' disease. For this purpose Ballet and Enriquez³¹ used the serum, and Lanz³⁰ the milk of goats in which myxedema had been produced by the removal of the thyroid gland. Burghardt³⁷ used the milk reduced to a powder, known as rodagen. Moebius has prepared a serum known as antithyroidin. A similar preparation from the blood of thyroidectomized animals is used here, marketed under the name thyroidectin.

Good results have been reported from the use of these preparations. Theoretically, if they are efficient, we should expect relapses on cessation of treatment. While many cases have relapsed, a considerable number have remained cured without further recourse to treatment. The following summary collects 55 cases of which 48 were improved or cured, 7 failed, and none died. My own experience has not been so favorable. The two cases in which I personally observed the action of an antithyroid substance did not show material improvement from their use. The preparation used was thyroidectin:

Lanz, 6 severe cases, all permanently cured; 3 mild cases, improved.

Kuh, 10 cases, 1, no improvement; 9 improved (one patient remained cured after 2½ years, the others relapsed on cessation of treatment).

Shultz, 1 case, cured in 50 days.

Burghardt, 10 cases, all improved or cured. (Used rodagen.)

Mix, 2 severe cases, cured.

Linn, 1 case, rapid improvement after 10 days.

Howell, 1 case, improved (used rodagen).

Ballet and Enriquez, 9 cases, all improved.

Sigel, 3 cases (used rodagen), no improvement.

Rydel, 3 cases, all negative. (Used milk).

Adams, 1 case, recovery. (Used antithyroidin).

Pisanti and Santon, 3 cases, 2 cases improved (used blood and serum from sheep); 1 cured.

Kühneman, 1 case, improved. (Used milk).

Josienek, 2 cases, improved. (Used antithyroidin).

The use of sera and antibodies antagonistic to the internal secretion of the thyroid gland is not limited to myxedema products. Murray^{21, 22} prepared an antitoxin similar to diphtheria antitoxin, by injecting animals with thyroid extract, till they reacted with symptoms like those

of Graves' disease, in the expectation that the antitoxin elaborated would antagonize the excess of gland secretion in Graves' disease. The attempts were not successful, as he failed to establish a tolerance or immunity to the serum. Rogers and Beebe^{25, 26, 27}, have prepared a cytolytic serum by the injection of the extract of thyroid gland removed at operation from a case of Graves' disease, into rabbits, and after reaction they used the serum of these animals in the treatment of exophthalmic goiter in a series of ten cases, with favorable results, 6 being cured, and 4 improved. Walsh treated 4 cases with the extract of the parathyroid gland, and McCallum one case, without results.

THE RELATION OF THE THYROID GLAND TO IODIN METABOLISM.

Baumann⁹ isolated a body, thyroïdin, or iodothyryn, a proteid containing iodine in strong combination, from which the iodine can be obtained only by the destruction of the proteid. This substance accomplishes the chief function of the thyroid gland. The amount of iodine in the gland is directly proportionate to the amount of iodine ingested, and to the amount of colloid material. Glands rich in colloid contain much iodine.¹ Iodine administered in excess sometimes causes an iodism, particularly in those having enlarged thyroid glands. The iodism is characterized by symptoms somewhat like those of Graves' disease, with enlargement of the gland, palpitation and neuroses. Iodine in cases of Graves' disease causes an exaggeration of all symptoms as in the last case that I report. Oswald^{12, 13, 14} has identified a body, thyroglobulin, which constitutes the greater part of the colloid. This he split into a thyroglobulin containing phosphorus, but no iodine, and physiologically inert, and one containing much iodine, corresponding to Baumann's iodothyryn. The physiological activity of the thyroglobulin seems to depend upon the presence of iodine in the molecule.¹ The fact that there is a thyroglobulin containing no iodine suggests that the thyroglobulin is secreted iodine-free, and that the iodine present enters into combination with it. This would explain why iodine causes symptoms analogous to those of Graves' disease, especially in those cases where the gland is already enlarged, on the assumption that considerable thyroglobulin present but inert, by reason of the lack of iodine, becomes active by the addition of iodine and the symptoms appear.

Iodine is closely associated with the function of thyroid gland, being necessary to its activity. It causes exacerbation of symptoms in cases of exophthalmic goiter. It must be present in order that the thyroid substance be active. Acting on this, Kirnbirger¹⁰ used sodium-sulphanilic acid, the antidote to iodine, for the treatment of four cases of Graves' disease, with improvement in each case.

The urine ordinarily contains no iodine. I have found traces of iodine in the urine of a case of exophthalmic goiter passed four hours after an *x-ray* treatment, but none in the urine previous to exposure to the *x-ray*. Perhaps the *x-ray*, which the Mayos of Rochester have used in exophthalmic goiter with good results, may act by causing a dissociation of the iodine from the thyroglobulin, and the iodine freed from combination is eliminated by the urine. Possibly the improvement noted by the

Mayos in ten cases after the use of the *x*-ray is to be attributed to such dissoeiation, so that the thyroglobulin is rendered inert, and not to the sclerosing effect of the ray on the lymphatics as they suggest.⁴

In addition to an attempt to separate the iodine from its combination with the active principle of the gland, the amount of iodine ingested is to be reduced to a minimum. As yet the iodine content of foods has not been fully worked out, but the following contain iodine and are to be avoided: Eggs, all sea products, such as oysters, shellfish and salt water fish, and potatoes, peas, beans, barley, oats and their products, most mineral waters, and common table salt. Chemically pure sodium chloride should be used. Codliver oil contains a considerable amount of iodine, and is not to be given to patients suffering from Graves' disease. It is to be hoped that the subject of the iodine content of foods will be more fully worked out. I have not been able to verify the observation of Treue. My qualitative analyses have not demonstrated the presence of iodine in milk. If present, the quantity must be so minute as to be negligible. I have restricted the diet to those foods that are free from iodine. As there are many foods whose iodine content has not been determined, I have put my patients on a largely milk diet, and at the same time exposed the thyroid gland to the *x*-ray. With the *x*-ray and the iodine free diet, I have noted rapid improvement in two cases that had resisted other methods of treatment, including the use of thyroidectin, together with absolute rest and quiet.

Treue has shown that the milk of thyroidectomized animals is free from iodine, while that of normal animals contains traces. Goebel,³⁹ therefore, used the milk of thyroidectomized animals as a diet for patients suffering from Graves' disease, hoping thus to limit the ingestion of iodine, not using it as did Moebius for its antithyroid properties, but acting on the assumption that the limitation of the amount of iodine ingested would reduce the amount of active thyroid substance with an alleviation of the symptoms.

While cures are attributed to a great variety of measures, it is to be remembered that there is often a tendency toward spontaneous improvement, particularly under favorable environment, and with the employment of those hygienic measures indispensable to all forms of treatment. It is likely that many cures are to be attributed to these measures rather than to any particular treatment. Absolute mental and physical quietude is essential, with the avoidance of all forms of excitement, responsibility or exertion that may cause acceleration of the pulse rate, shortness of breath or exhaustion. In severe cases rest in bed is requisite. Next, an antithyroid substance, while they are still on trial, may be given a place in the treatment: third, reduce the iodine content of the gland by the use of the iodine-free diet and by the *x*-ray, which has a beneficial effect, perhaps, by releasing the iodine from its combination with the thyroidin; fourth, operative treatment is applicable to those cases that resist internal medication and only in carefully selected cases. But in cases that resist other forms of treatment operation is not to be deferred till the patients

are not able to stand the operation. Herewith are reports of three cases:

CASE 1.—A girl, age 18. Family and personal history negative. The present illness began three years ago with enlargement of the neck, rapid pulse, headaches, sweating and weakness. The case was of moderate severity and ran a variable course for three years, sometimes better, at others worse. Examination showed a healthy-looking girl, good color and no loss of flesh. Moderate enlargement of the gland, but no exophthalmos. Pulse soft, from 110 to 120, throbbing of the arteries and a bruit over the right carotid artery. Heart and lungs negative. There is dullness behind the upper half of the sternum and extending laterally a distance of three centimeters from it on each side and merging with the heart dullness below; muscular twitchings and tremor of the fingers and tongue; urinary examination negative; blood count and hemoglobin showed a moderate secondary anemia. Thyroideetin had been given previous to the time when she came under my observation, without improvement. This I continued, and in addition *x-ray* exposures were instituted, with increase of strength, slowing of pulse rate and disappearance of tremor. In March she had the grippe, from which she was slow in recovering, with recurrence of symptoms of Graves' disease, as tachycardia, palpitation and weakness. She again improved after the use of the *x-ray* and with an iodine free diet. She has been completely cured, with no evidence of relapse for the last six months, having fully regained flesh and strength. A point of particular interest is the dullness over the sternum, indicating a persistent thymus gland. Enlargement of the thymus gland is noted, according to Marie, in one-half of the cases of Graves' disease. This case is one clearly fitted to medical treatment. Operation is not to be resorted to, as it would be exceedingly hazardous. Persistent thymus gland is associated with the "status lymphaticus," and operations in the presence of this condition almost always result in death on the table.

CASE 2.—Woman, age 32, single, came under my observation in November, 1905, complaining of headache, weakness, palpitation of the heart and swelling of the feet; the symptoms were of three weeks' duration. The family and personal history were negative. Examination showed a slender woman, of poor nutrition; heart, lungs and abdomen negative; enlargement of the thyroid gland; no exophthalmos or ocular symptoms; tremor of the tongue, fingers and face muscles; pulse, 100 per minute and of low tension. The urinary examinations have always been negative. On December 15 she was seized with a cardiac dilatation and collapse, from which she slowly rallied, with a dilated heart and mitral lesion. Since then she has been worse, with a large gland, tremor, tachycardia, up to 140 per minute, prostration and delirium. On January 1 I began the use of thyroideetin. No results in three months' treatment. The other considerations of treatment were absolute rest and quiet, including rest in bed for three months, during which period she grew rapidly worse. In March I placed her on the iodine-free diet, and the neck was exposed to the *x-ray*, sixteen treatments being given in April and twelve in May. She has improved steadily, gaining steadily in flesh

and strength. The tumor has lessened, the heart is slowed, being less than 90, but increasing to 110 to 120 on exertion. The neck is nearly of normal size.

CASE 3.—The patient, a married woman, first presented symptoms three months after the birth of her first child, having the four cardinal symptoms—tachycardia, tremor, gland enlarged, especially in the right lobe, and exophthalmos. There was great weakness and loss of flesh so that the patient was confined to the bed for three months. Other symptoms, such as sweating and diarrhea, were also present. An interesting observation in this case is that potassium iodid caused a marked exaggeration of all the symptoms, the pulse rate leaping to 170 or 180 per minute and the goiter becoming larger and harder. There was no improvement in this case from various drugs used, and with rigorous adherence to the rest cure, till the thymus gland extract was administered, in daily doses of about twenty grains over a period of two years. There followed steady improvement with gain in weight. All symptoms subsided, except a moderate enlargement of the gland and moderate exophthalmos and a pulse ranging from 90 to 110. Six months ago thyroidec-tin produced no change for two months, when the pulse rate fell to from 75 to 85, and the exophthalmos lessened, leaving now, as the remaining evidence of the disease, the enlarged gland which had persisted under all forms of treatment. During the last few months this has shrunk under the use of the *x*-ray so that no trace of disease remains. An interesting feature of this case is that one year ago she gave birth to twins at the seventh month of gestation, each of whom had a greatly enlarged thyroid gland.

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EXOPHTHALMIC GOITER, WITH REPORT OF CASES.*

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To-day the concensus of opinion of exophthalmic goiter is that it is a hyperthyrea. This is based upon the fact that feeding thyroid gland to animals and to man is followed by many of the symptoms of the disease. By the fact that in most cases there is an enlargement of the thyroid gland. That a removal of a considerable portion of the enlarged thyroid gland cures the patient or, at any rate, causes a subsidence of many of the symptoms. That a recurrence of the disease after removal of a part of the gland is associated with a growth of the remaining part of the thyroid, and, finally, that histologically the tumorous thyroid shows an active cellular proliferation and chemically the nucleo proteids are increased together with the iodine content.

The chief symptoms of exophthalmic goiter consist of tachycardia, exophthalmos, enlargement of the thyroid gland and tremor. In addition to these there are, in many cases, a secondary anemia, emaciation, vomiting, diarrhea, an erythematous flush of the skin, sometimes an infiltrating hard edema of the skin, in rare instances scleroderma, sometimes pigmentary changes, throbbing arteries, general nervous irritability, mental excitement or depression, myasthenia, profuse sweating, a moderate irregular type of fever, headache and shifting neuralgic pains.

Of these symptoms, the first four named are the most constant and of these tachycardia is practically always present, while of the remaining three, they vary in their presence and in duration and degree. The more general symptoms named also vary in frequency and in degree. In acute cases all of the symptoms named may be present. In the chronic cases, the general symptoms may be absent and even the cardinal symptoms, the first four named, may be expressed in such mild degree that the disease may not be easily recognized. The acute disease may run its course in a few months and the chronic form may extend over a period of many years.

As a rule the acute cases are primary. That is, the disease occurs without the previous existence of any recognizable disturbance of the thyroid gland or heart, while, on the other hand, the more chronic cases are usually preceded by simple goiter. It occurs more frequently in women than in men in the proportion of 7 or 8 to 1. It is more prevalent in the third and fourth decennial periods. There are many causes assigned but no one cause is common to many patients. Nervous shock or the rapid expenditure of nervous energy through the worry and frets of life, or of acute disease, appears to be the exciting cause in some instances. Thus fright, uncontrollable grief, domestic or business worries, attacks of la grippe and other acute diseases have appeared to be causes in some of the cases to be reported. It has occurred coincidentally with the menopause in a few patients. There can be no doubt that it occurs in individuals of a neurotic type more frequently than in

* Read before Chicago Medical Society, December 12, 1906.

those with a more stable nervous apparatus. Thus it occurs sometimes in families. Three of my patients were sisters.

I have the records of 61 patients who have come under my direct personal care. Eight were males and 53 females. The ages of the males were 23, 29, 37, 41, 43, 44, 47 and 48 years; of the females, one was 17; two 18; nineteen were from 20 to 29; fourteen from 30 to 39; thirteen from 40 to 49 and four from 50 to 54. Of the males, two were acute and the remainder chronic forms of the disease. One male had suffered from goiter for several years preceding the onset of the symptoms and with 7 goiter developed as an incident of Graves' disease. Of the females, 32 had no goiter preceding the development of the disease, while 20 had suffered from goiter for from 3 to 20 years. Ten of the 53 females suffered from the acute Graves' disease and in all of these acute cases the goiter was primary, that is, developed as a part of the disease.

In an analysis of the 61 patients it is found that of the probable causes, severe grief preceded the attack in 4; 6 had suffered from a severe attack of la grippe; in two cases in the young girls, overstudy was ascribed as a cause; 2 had severe operations and the disease developed immediately afterward, and the disease developed at the climacteric in 2. Goiter existed in the family in 15 cases. In one family there were six individuals who suffered from goiter. Tachycardia existed in all at some time in the history or during the clinical observation. The pulse rate was high, ranging from 100 to 160 and even to 180. Tremor was also present in every patient at some time during the observation. It was not as constant as the tachycardia and in some instances occurred only during excitement. The tremor was fine, varying from 6 to 10 to a second.

Exophthalmos was present in 4 and absent in 4 of the males. In the females it was present in 38 and absent in 15. It was present in but one eye in 2 of the females. Graefe's sign was present in 41 females, absent in 5 and not noted in 7. It was present in 4 and absent in 4 males. Moebius' sign was present in 4 females and absent in 49. One suffered from chronic internal strabismus. Moebius' sign was present in one male and absent in 7. Stellwag's sign was present in the severe cases of exophthalmos and absent in others. Thirty patients sweated profusely. Dry skin and dry hair occurred in 2 and in 20 there was no disturbance of the secretions of the skin. Loss of weight from 5 to 40 pounds occurred in 29. There was a gain in weight in 2 and no apparent change in the remainder. Twelve of the patients had diarrhea. Constipation occurred in 7 and the bowels were in the normal condition in the remainder. Nausea and vomiting occurred in 12 while these symptoms were absent in the remainder. Sleeplessness was a common symptom and present in all of the acute cases. Most of the patients were emotional. Headache of the neurasthenic type was common. Myasthenia affecting especial groups of muscles was common. The signs of Graefe and Moebius are due to muscular weakness. Bryson's sign, a diminution of the strength of the respiratory muscles and Joffrey's sign, lessened power in the frontalis muscle are examples of myasthenia. The weak-

ness of the quadriceps femoris was notable in the acute cases. In all of the acute cases the heart muscle showed the effect of the toxemia by a quick nervous action and by a varying degree of dilatation of the left ventricle, which was commonly found. In several of the acute cases a diffuse erythematous blush was almost a constant symptom. In one acute case persistent vomiting, prostration, almost uncountable rapid pulse and severe collapse resulted in death within three months of the onset of the disease. In one chronic case with acute exacerbations, multiple eruption occurred upon the skin especially of the lower extremities, associated with persistent itching. In 2 cases photophobia with neuralgic pain through the orbit caused great distress. In many of the chronic cases moderately acute exacerbations with fever occurred as the result of nervous shocks and acute simple infections like tonsillitis, pharyngitis, etc. In 3 cases acute exacerbations of chronic condition occurred from the use of the thyroid extract used by the physician, as a remedy. In one male a simple goiter treated with thyroid extract developed a typical Graves' disease and the patient recovered upon the withdrawal of the remedy. Pregnancy occurring in 3 patients aggravated the symptoms and in two instances the disease became so acute that evacuation of the uterus became necessary. In one instance the patient returned to a chronic form of the disease after an almost fatal ending. Albuminuria of moderate degree with hyaline and a few finely granular casts occurred in 11 cases. Glycosuria occurred in one patient.

All but 3 of these patients were treated by medical measures. This consisted of rest, when possible continuously in bed, with a diet pushed to the full capacity of the digestive organs. In the earlier days of my experience the treatment consisted of, in addition to the rest treatment, galvanism through the goiter and along the course of the pneumogastrics for ten minutes each day, the use of strychnia hypodermically to its physiologic limit, where it was apparently borne well, the use of strophanthus and the ice bag at hourly intervals over the heart. Bromids and opium were used as palliative remedies. Codeia has proved an excellent and harmless opiate. In more recent times, since the development of the so-called serum treatment, thyroidectin has been used in 12 cases. The powder form of the serum has been used in the dose of from 15 to 40 grs. a day in divided doses with varying results. In no instance have I secured the favorable results recorded by many other physicians. In 2 instances the symptoms were aggravated notably by the remedy. For five years upon the suggestion of Dr. Forchheimer of Cincinnati, I have used the hydrobromate of quinin in 8 cases. The drug has been given in from 15 to 30 grs. in divided doses in 24 hours. It has afforded a more uniform improvement in the symptoms due to vasomotor disturbances than any other drug. I have used the serum of thyroidectomized goats prepared under the direction of Moebius, in one male. This patient was upon rest treatment in the hospital and in addition to the full doses of the serum hydrobromate of quinin was given. The improvement was steady and continuous.

I have not had any experience with the use of specific serum prepared

by Beebe of New York and used by Rogers and Thompson in the treatment of 39 or more cases. This specific serum is prepared from normal and from pathologic human thyroid glands by the extraction of the nucleo proteids and globulins. A full report of the method of preparation of the serum and of the results of the treatment as reported by Beebe, Rogers and Thompson will be found in the Transactions of the Association of American Physicians for 1906. Dr. Rogers reports one death which he ascribes to the over-use of the serum. I have not used the milk of thyroidectomized goats, which has been beneficial in the hands of many reporters.

The surgical treatment will be reported upon by others. Three of the patients included in this group were operated upon. One patient, a young woman, who had received the rest cure treatment with decided improvement, had a relapse at the end of a year and she and her brother, who was a doctor, elected to have surgical treatment. The patient died upon the table after a prolonged operation. The other two patients made very satisfactory recoveries and remain well.

Under medical treatment the cure is usually not complete. The patient may enjoy a fair degree of health but there will usually be in evidence a more rapid heart than normal and neurasthenic symptoms usually prevail.

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THE OCULAR SIGNS AND SYMPTOMS OF EXOPHTHALMIC GOITER.*

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Although the symptoms of exophthalmic goiter are largely ocular, it is not alone for this reason that I prefer the title that heads this paper. I do not believe one can use the expression "Graves'" or "Basedow's disease," without doing injustice to the memory of an Englishman, C. H. Parry, who intelligently observed and described this symptom-complex in 1786. His writings were not published until 1825, although they appeared some fifteen years before Basedow's first article in Casper's *Wochenschrift für die gesammte Heilkunde*. The publication of Parry's observations also antedates Graves' description of the disease, which formed part of his famous lectures contributed to the *London Medical and Surgical Journal* for 1835. Furthermore, the claims of both Graves and Basedow are probably inferior to those of the Italian, Giuseppe Flajani, who published a work in four volumes (*Collezione d'osservazioni e riflessioni di Chirurgia*) at Rome in 1802. In it a fairly accurate account is given of an example of this curious affection, although we do not know that he appreciated the correct symptoms of the disease. In some Italian works, also, reference is made to *il morbo di Flajani*, although in recent years

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the term *gozzo esoftalmico* or *il morbo di Basedow* is employed. In any event I prefer the expression "exophthalmic goiter" until we can agree upon or have learned more than we now know about the pathology of this interesting symptom-complex.

The chief reason why the eye symptoms are of extreme value, particularly in diagnosis, is (1) because of their easy detection, (2) because of the fact that one or more of them invariably occur early in the disease, and (3) because in doubtful cases they may be relied upon to differentiate exophthalmic goiter from other forms of exophthalmos, tremor, struma, tachycardia, and the like.

EXOPHTHALMOS OR PROPTOSIS.

The exophthalmos* or proptosis is commonly the first eye symptom to attract the attention of the observer. It gradually increases until the lids may be unable to close over the eyeball, thus rendering the globe liable to infection and interfering with the proper drainage of the conjunctival sac. In the early stages the ball may be pushed, without producing pain, back into the orbit, but later this can not be done. This fact can be explained if we remember the direct cause of the proptosis. At first the bulging is produced by the enlargement of the blood vessels only and possibly the filling of the lymph channels. Later a permanent pad of connective tissue and fat is deposited. When a cure is effected in a chronic example of the disease, the other symptoms usually disappear before the exophthalmos, probably because the orbital fat does not readily undergo absorption. Occasionally one eye subsides more quickly than the other. This sign can almost always be differentiated from orbital aneurism and tumor by the fact of the proptosis in goiter occurring directly forward and of its being bilateral. We must not forget, however, that there is such a thing as unilateral exophthalmos in genuine Graves' disease. As Fitzgerald pointed out, it is usually the right eye and the right side of the body that are affected in these monolateral cases.

RETRACTION OF THE UPPER LID AND WIDENING OF THE INTERPALPEBRAL FISSURE (DALRYMPLE'S SIGN).

Before the exophthalmos appears retraction of the upper lid and widening of the interpalpebral fissure (Dalrymple's sign) is commonly seen. It is one of the earliest and most regular symptoms of the disease. Our forefathers regarded it as a result of the exophthalmos. We now know, on the contrary, that it is the proptosis that seems more pronounced on account of the wide open lids. Continual palpebral retraction to an extent that exposes the white sclera between lid edges and cornea, above and below, is practically always a sign of disease. It is almost invariably a symptom of Basedow's disease, although the "staring eye" or "Glottzauge," as our German friends call it, is occasionally seen in certain forms of mania, in tetanus, in hysteria and in other affections.

* Most of this paper was read (by invitation) before the Buffalo Academy of Medicine, in October, 1901, and published in the *Buffalo Medical Journal* for January, 1902.

INFREQUENT WINKING.

Infrequent winking is also an important and constant sign of exophthalmic goiter. This is known as *Stellwag's sign*, although most authorities persist in confounding or including with it the sign of Dalrymple. The truth is, so far as I have been able to trace it, that in 1869 Stellwag first described the sign that bears his name and drew attention to the retraction of the lids as the most noticeable cause of the "Glotzauge." But Dalrymple had, years before (London *Lancet*, May 26, 1849), published a definite description of this same phenomenon.

GRAEFES'S SIGN.

Gracfe's sign is a most valuable one. It occurs early, is quite constant, and, although it may be present in Thomsen's disease and sometimes fails altogether, should always be searched for in doubtful cases. It consists in impairment of the associated movements of the upper lid with the eyeball. In a normal eye, when the globe is rotated downward, the upper lid-edge follows it, covers a portion of the upper cornea and preserves about the same distance from the sclero-corneal junction throughout the whole excursion. Much of this diagnostic value, which is great, depends upon its mode of application. It is best developed by covering one eye and asking the patient, with his head in the primary position and at ease, to fix the point of a pencil held eighteen inches from his face and on a level with the forehead. The pencil end is now slowly lowered, the head all the while in the primary position, and the pencil kept eighteen inches from the body until it reaches a point at the level of the ensiform cartilage. In exophthalmic goiter the upper lid, during this excursion, will be noticed to lag behind and even to expose a zone of white sclera between it and the cornea.

INSUFFICIENCY OF CONVERGENCE OR THE SIGN OF MÖEBIUS.

Insufficiency of convergence, or the sign of Möebius, depends upon the fact that the stretched internal recti muscles are unable to move the bulging eyes inward to the same extent and with the same facility that they can normally situated globes. It is necessary for binocular vision that the visual axes should be directed at about the same angle toward the object to be fixed. Möebius claims that in Basedow's disease the excursions of the eyes in other directions are practically normal, but that, without producing double vision, weakness of convergence is a characteristic of the majority of cases. It must not be forgotten that symmetrical paresis of the external recti muscles is sometimes a sign of exophthalmic goiter, and then we may have apparent excess of convergence. Cases are on record (although it has never been my fortune to observe an example of this lesion) in which a single eye muscle has been paralyzed in exophthalmic goiter, while others have published instances of complete ophthalmoplegia externa. These are probably, in most cases, the result of nuclear disease.

BECKER'S SIGN.

What I regard as most valuable evidence of the disease is Becker's sign, first described by Otto Becker in the *Wiener klin. Wochenschrift* for

1873. I refer to spontaneous pulsation of the retinal arteries. This sign is, of course, met with in other conditions—glaucoma, aortic regurgitation, and the like—but it is an aid to diagnosis that we can not afford to ignore. The pulsation does not, as a rule, extend beyond the optic disc (as in most cardiac lesions) and it is usually accompanied by tortuous and enlarged veins.

EPIPHORA.

Epiphora—watery eyes—has been seen a number of times and may be very troublesome. I observed it in one of my cases—a woman—and Emile Berger mentions it as the earliest of the ocular symptoms in two of the histories reported by him. He speaks of it as a nervous affection of the lachrymal gland, but in the case under my own observation it seemed to result from the excessive proptosis, causing displacement of the puncta lachrymalia.

GIFFORD'S SIGN.

Great difficulty in everting the upper lid was noted by Harold Gifford, of Omaha, and first published by him in the *Ophthalmic Record* for June, 1906. He believes it occurs as an early symptom, as it is usually absent in the well-developed instances. Gifford thinks this sign to be due to spasm or irritability of the non-striated muscle of Müller.

DRYNESS OF THE EYES.

Dryness of the eyes is one of the commonest complaints made by patients. It is probably due to the absence of winking (the process by which chiefly the cornea and the bulbar conjunctiva are cleansed in the normal eye) and the exposure of the wide open eyes to wind, dust, smoke and other irritants. One wonders that traumatic and other forms of keratitis, as well as infective ulcer of the cornea, do not more frequently occur in the imperfectly protected eyes of this disease. Basedow has himself drawn our attention to its occasional occurrence and gives an account of a merchant, aged 50, who lost both eyes from perforating ulcer, apparently induced by driving in an open carriage along dusty roads and with his eyes much exposed to the wind. To illustrate further the serious outcome of certain forms of exophthalmos in this disease. I would refer you to an article by Tornatola (*Archivio di Ottalmologia*, May-June, 1901). He was called upon to prescribe for a woman with fully-developed Graves' disease in which the exophthalmos was very pronounced, 1.5 cm. in the right and 1 cm. in the left eye. An ulcer occupied the two lower quadrants and two-thirds of the thickness of the right cornea. The lids covered only about one-third of the globe. In the left eye there was a smaller ulcer in the center of the lower quadrant. The corneæ retained their sensitiveness. After the usual disinfection the lids were sutured in such a way that the knots could be readily united for appropriate treatment. In eight days the left ulcer healed, the right one in fifteen days. A month later she returned with a second corneal infection in both eyes, to be again cured. A third time the patient appeared with spreading ulcer in either eye, but on this occasion the lids could not be sutured over the globes, chiefly because the scarred skin of the lids no longer retained the threads and knots. Tarsorrhaphy was done, but the adhesions soon

gave way. Sympathectomy was then performed by Professor Solomoni with considerable relief to the exophthalmos and the goiter; the tachycardia remained. Meantime the corneal ulceration, infiltration and conjunctival chemosis increased until the left eye had to be exenterated. Tornatola now endeavored to preserve some vision in the remaining eye and succeeded by supplementing a second tarsorrhaphy with large skin grafts from the nose and temple until the interpalpebral aperture was finally closed. The patient's condition a year after was fairly satisfactory. Photographs and measurements showed a reduction of the exophthalmos about one-half.

LOSS OF SENSATION OF THE CORNEA AND CONJUNCTIVA.

Loss of sensation of the cornea and conjunctiva has several times been noticed and doubtless has been overlooked in many other cases, as, of course, it is an objective symptom and does not attract the attention of the patient. A very pretty theory might be built upon the fact of its presence to account for at least some of the eye symptoms. I give it to you for what it is worth. As is well known, the incentive to normal winking and consequent cleansing of the eyeball is chiefly dryness of the anterior segment of the globe due to evaporation from the exposed surface. To this is added the foreign-body sensations set up by fine dust and other particles. In the same way the lid maintains the same relative position upon the globe in all positions of the latter in virtue of the orientation made possible by the same lid-eyeball-sense. Indeed, the maintenance of a certain space between the lid edges—the usual size of the interpalpebral aperture—depends largely upon the fibers of the fifth nerve supplied to all parts. In exophthalmic goiter this sensibility is destroyed; hence the eye signs. Probability is lent to this hypothesis when we bring about this asensitive condition artificially. A few drops of a 4 per cent. solution of cocain instilled into each eye at two-minute intervals will, in from ten to fifteen minutes, enable one to induce and study the Graefe, Dalrymple, and Stellwag signs without difficulty. Even the appearance of proptosis is sometimes induced by the fixed stare that a cocainized eye not infrequently assumes.

CIRCUMSCRIBED EDEMA OF THE UPPER EYELIDS.

Circumscribed edema of the upper eyelids, as well as pigmentation of their skin surface (the sign of Jellinek and Rosin), has been occasionally seen, but the latter is probably a mere accident and is only a part of the dermal changes seen elsewhere on the body.

NEUROLOGICAL COMPLICATIONS OF EXOPHTHALMIC GOITER.*

L. HARRISON METTLER, M.D.
CHICAGO.

In the brief time allotted to me, I can not hope to do more than touch upon the many questions involved in the consideration of the complications of exophthalmic goiter. I will do this as briefly as possible,

* Abstract of remarks made in Symposium Upon Exophthalmic Goiter before the Chicago Medical Society, Dec. 12, 1906.

and in the end, endeavor to draw two or three practical conclusions, that may assist one in making an accurate diagnosis and adopting a rational mode of therapy.

Before being able to decide what is a complication of a given disease, one must have a clear and well defined conception of what the disease itself is. It would be an easy and perfunctory task for me to stand here and enumerate all of the diseases that have been found in association with, and reported as complications of, Graves' disease; but such an enumeration would be neither especially illuminating nor scientific. A mere rehearsal and description of such well known affections as hysteria, epilepsy, migraine, chorea, tetany, myotonia congenita, paralysis agitans, Raynaud's symmetrical gangrene, tabes dorsalis, arthritis, osteomalacia, bulbar paralysis, external ophthalmoplegia, nephritis, diabetes, certain cutaneous disorders, psychoses, etc., would not clear away very much of the mist surrounding the question as to exactly what is and what is not exophthalmic goiter. In the literature I have counted nearly a hundred various symptomatic manifestations that have been more or less associated with Graves' disease. Some of these have been assigned as direct symptoms of the disease by many authors, while other authors have been just as insistent that they represented mere complications or associated troubles. For example, concentric contraction of the field of vision is said by some to be a symptom—secondary, if you please, but nevertheless a symptom—of exophthalmic goiter; others hold that such a symptom indicates merely an associated hysteria. Glycosuria is believed by many to be a rare, but secondary, symptom of Graves' disease; others maintain that it indicates rather a complicating diabetes. Certain psychic exhibitions are seen in conjunction with exophthalmic goiter, but in many cases they glide so persistently and pronouncedly into the symptomatology of well recognized and well defined psychoses, that not a few believe them to be but mere incipient indications of a complicating insanity. Many more illustrations might be adduced to show the uncertainty in the minds of the authorities as to the full significance of these numerous symptoms which have, from time to time, been attributed to exophthalmic goiter, though they are often cardinal manifestations of other well known disease entities. What is needed is a definite conception and clear-cut definition of exophthalmic goiter, rather than a mere conglomeration of symptoms. Murray says that the cardinal symptoms of the disease are tachycardia, goiter, exophthalmos, tremor and general nervousness. What does "general nervousness" include and what may it not include?

Before we can talk about the complications of a disease which has been made the happy possessor of so large and varied an assortment of symptoms, we must first and foremost have a more accurate conception of the disease process and a more clearly defined outline, than we now have, of its symptomatic contents. To a certain extent this fact is admitted in the assertion that one set of the symptoms of exophthalmic goiter, namely, the tachycardia, goiter, exophthalmos and possibly tremor,

are cardinal, while the neurasthenic and all other manifestations are secondary. This certainly gives some definition to the disease.

Whether it be regarded as a disease itself or as a mere syndrome (which in my opinion it probably is), the famous triad of symptoms is sufficiently distinct, persistent and uniform to be accepted as a clinical entity. As a clinical entity, its persistence, its uniformity, and its pronounced individuality, far and away beyond that of all of the other secondary manifestations of the disease, constitute the strongest argument on the side of those who still hesitate to accept the theory that dysthyroidism is the primary cause of the trouble. Such a triad, they feel, points to some single organic basis or some intimately associated functional centers rather than to so wide a pathological process as would be presupposed in a thyroid intoxication.

On the other hand the more extensive one allows the symptomatology of exophthalmic goiter, the more varied manifestations it is permitted to have, and the more definite and persistent these so-called secondary signs are seen to be, the stronger will be the clinical ground for the arguments of those who frankly accept the thyroid disorder as the sole and primary cause of the disease. To whichever theory our predilections and mode of reasoning may incline us, the neurotic theory or the thyroid, we are all agreed that, clinically, exophthalmic goiter means tachycardia, goiter and exophthalmos, with possibly tremor, whatever the other symptoms may be. We must anchor ourselves to the classical triad in making our diagnosis, for if we slip our hold here, and begin to verge away into the secondary symptomatic chaos, we are lost and our diagnosis will be futile. The classical triad then, in whole or in part, is the basis, in every case, of our diagnosis of exophthalmic goiter. This is axiomatic and should never be forgotten.

Now then, we are in a position to say, with a little less obscurity, what may be outside of exophthalmic goiter as a mere complication or associated disease. Great care needs to be exercised here however in making the diagnosis. Not every manifestation that happens to be associated with the clinical triad or one of its constituents is thereby made a symptom of the exophthalmic goiter that is present. Without the triad, in whole or in part, no diagnosis of exophthalmic goiter can be made. With the triad, in whole or in part, a diagnosis is not only possible but positive. The presence of secondary symptoms, so-called, with the triad in whole or in part, should in the diagnosing of exophthalmic goiter, arouse the diagnostician's thought at once to the possible existence of a complicating disease. To illustrate, a glycosuria, with one or more of the three cardinal symptoms of Graves' disease, should not be complacently passed by as one of the added phenomena of the latter disease. It should provoke at once in the mind of the examiner the thought that probably a complicating diabetes is present. The other indications of diabetes should then be strenuously sought for and, in my opinion and as the result of my own observation, such complication in most if not in all cases will be discovered. In a word, I would repeat and urge that all of these so-called secondary symptoms of exophthalmic

goiter—symptoms exclusive of the tachycardia, struma and exophthalmos—be regarded, in every case, with a high degree of suspicion; and that, by the discovery of other related and collateral symptoms, they be aligned, if possible, with some other associated affection. Not always will this be possible. Indeed, it may well happen that in some instances—in very many instances—these secondary signs do belong to the direct symptomatology of exophthalmic goiter or at least of the thyroid intoxication. But nevertheless, I would have the practitioner's attitude of mind, in regard to these secondary manifestations as symptoms of Graves' disease, to be one of strong suspicion. This is a most important matter, I believe, from the standpoint of treatment as well as of diagnosis.

The complications of exophthalmic goiter oftentimes demand a therapeutic régime quite different from that of the latter affection; and such a régime may be wholly passed by where a set of symptoms indicating virtually a complication is assumed to be but a part of the symptom complex of Basedow's affection. Moreover some diseases like tuberculosis and chlorosis have borne so close a resemblance to exophthalmic goiter in some particulars that the mistake has been made of diagnosing them as Graves' disease and so wholly managing them along erroneous lines of therapy. Let it be strongly repeated, we should regard cautiously all manifestations of exophthalmic goiter not included in the classical triad, and should exert our keenest diagnostic skill to allign such symptoms with some other possible complicating disease.

Both the neurotic and thyroid theories of exophthalmic goiter recognize that the disease is clinically a neurosis. The latter theory assumes only the pathological changes in the thyroid gland as the organic element. Therefore it may be said, and truthfully I believe, that all organic diseases whose symptoms are associated with those of exophthalmic goiter should be regarded as complications of the latter. Organic heart disease may give signs that assure us beyond peradventure that the heart is organically or structurally damaged. Such a condition then becomes a complication of the neurosis. It is comparatively an easy matter to determine the mere complicating character of such an organic, distinct trouble as tabes dorsalis, nephritis, arthritis, Raynaud's disease, for instance, but it is not such an easy matter always to establish the exact origin of an external ophthalmoplegia, a cephalalgia, an epileptiform seizure. Here again I would warn the practitioner to turn his mind away, when examining a given case showing some or more of the cardinal symptoms of exophthalmic goiter, from the Graves' syndrome, and endeavor by the most searching examination to discover other symptoms whereon to base a diagnosis of a complicating disease. And if this diagnosis be one of an organic affection, he most assuredly has a complication of the existing Basedow's disease, which complication may call for a special line of treatment quite otherwise than that demanded by the thyroid neurosis.

In conclusion then, it seems to me reasonable and practical, where there is still so much uncertainty, to first, hold rigidly to the classical triad, in making any diagnosis of exophthalmic goiter; to secondly, look

with strong suspicion upon the so-called secondary symptoms; and to, thirdly, align these secondary symptoms always, if possible, with some other less obvious, though present, symptoms for the making of a diagnosis of some other disease, functional or organic, which will then be recognized as a mere complication or association of the exophthalmic goiter, demanding, it may be, its own special mode of treatment.

THE MEDICAL TREATMENT OF EXOPHTHALMIC GOITER.*

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CHICAGO.

REST.

In severe cases rest in bed is imperative. The rest should include body, mind, sight and hearing. Relief from worry and protection from disturbing influences of every kind is the beginning of sound treatment.

DIET.

General diet is usually allowable and is subject only to the limitations of the capacity of the digestive organs and the needs of the body. If vomiting and diarrhea exist, such foods only as are applicable in cases of catarrhal gastroenteritis should be permitted; and, if there is marked glycosuria, the physician is likely to restrict somewhat the use of carbohydrates. Diarrhea, whether originating spontaneously or produced by saline purgatives, is often attended with improvement in the general symptoms.

HYDROTHERAPY.

A warm bath at night promotes sleep. Excellent authorities recommend, in violently acute cases, the application of ice bags over the heart and over the thyroid gland to subdue circulatory and nervous excitement, but such applications have not benefited my patients. In like manner, ice caps to the head for the relief of maniacal delirium have proved of small value.

ELECTRICITY.

This is rarely helpful and still more rarely does it cause permanent improvement. Undoubtedly a strong galvanic current, of from twenty-five to seventy-five milliamperes, as recommended by Rockwell, with one electrode applied over the cervical spine and the other over the heart, will sometimes slow cardiac contractions; but the effect is rarely, if ever, lasting. Faradism does no better.

ROENTGEN RAY.

This has been mildly beneficial in a few cases, but its use has generally been attended with disappointment.

ORGANOTHERAPY.

Thyroid extract and its equivalents nearly always do harm. In rare cases only, and under special conditions, has it failed to do harm. It is

* Read before Chicago Medical Society, December 12, 1906.

contraindicated. Nevertheless it is probably more extensively used to-day by the rank and file of the profession than any other agent. Parathyroid extract seems to act in like manner. Thymus extract, in the daily dosage of forty to sixty grains, has been used with asserted advantage by many eminent clinicians (Mikulicz, Metcalf, Todd, Solis-Cohen and others); but, nevertheless, patients are quite as liable to get worse under its influence as to get better. Adrenal extract has been tried, also, but it has never been known to do much good.

SERUM THERAPY.

Two kinds of serum have been introduced to the notice of the profession: (a) The serum of thyroidectomized animals and (b) the serum of animals treated with increasing doses of thyroid extract. Neither of these products has furnished uniformly important results. Lanz claims to have succeeded in four cases of exophthalmic goiter by giving the milk of thyroidectomized goats. In the last two numbers of the *New York Medical Journal*, James Ewing reviews the literature of serum therapy, but without showing important progress in a practical direction.

MEDICINAL THERAPY.

Iodin usually proves hurtful. The same is true of digitalis and strychnin. Belladonna, given in the dose of ten minims of the tincture three or four times a day, is recommended by more writers than any other medicine; but to me it seems inferior to some others. Forchheimer recommends the employment of hydrobromate of quinin so strongly and with such explicit references to its value as to command attention. He gives it in the dose of five grains every six hours—sometimes alone and sometimes with the addition of one grain of ergotin to each dose. Salicylate of sodium, in the dose of ten grains, repeated every four or six hours, usually subdues symptoms appreciably for a short time, but its effects are not lasting.

Saline purgatives, especially the phosphate and the glycono-phosphate of sodium, are of undoubted value. They are recommended by some of the most responsible clinicians in the profession, including Kocher; and in my own practice improvement of the patient under their use has rarely failed to occur. One is tempted to theorize on "elimination" in this connection. The salines mentioned are usually prescribed in the dose of twenty to forty grains three or four times a day—that is, to the extent of causing two to four watery evacuations daily—and their administration is continued for six or eight weeks. Of course, they are inadmissible if exhausting diarrhea already exists, but a moderate degree of looseness of the bowels should be let alone.

Aside from the saline purgatives, the medicines I have learned to rely upon mostly are strophanthus, codein and the bromids. Pulverized strophanthus in the dose of one grain, codein, a third or half a grain, and bromid of sodium in the dose of twenty grains, each repeated at regular intervals three or four times in twenty-four hours, often prove very serviceable. It is usual for me to give two of these medicines, but not

codein and the bromid, at the same time. Local applications over the thyroid are useless.

I estimate that 60 or 70 per cent. of the cases of exophthalmic goiter terminate in recovery under medical treatment. It must be remembered, however, that some cases terminate spontaneously in this way, and I have witnessed three instances in which the occurrence of pregnancy seemed to contribute to the result. Charcot has recorded a similar observation. The diversity of medical treatment now in vogue may be accepted as evidence that the name "exophthalmic goiter" does not stand for an unvarying condition. When medical treatment has been well sustained for six months without distinct benefit to the patient, or if the patient should get worse under the best medical treatment that can be devised, surgical measures must be considered.

RECTAL DISEASES.*

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BLOOMINGTON, ILL.

In the domain of surgery, no operations give the uniform satisfaction and absolute relief to the patient and the surgeon as operations upon the excretory outlet of the alimentary canal; in other words, diseases of the rectum and anus. Diseases of this region are very common, and the newspapers are filled with advertisements of cures for all such conditions. Another fact is that most people prefer to suffer with piles, etc., for years rather than submit to an operation which will surely give a perfect cure and a relief from suffering and annoyances. The fact that these people continue to suffer shows that the salves and cure-alls advertised do not cure.

It seems strange that people will refuse an operation that will cure them while they will submit to all sorts of mutilation, running the risk of death for other diseases and conditions. The explanation is easy perhaps. Diseases of the rectum mostly do not endanger the life of the patient; hence he clings to his disease rather than submit to an operation because he knows that his disease will not kill him, although he suffers forty deaths a month from his condition. It is the duty of the physician to urge these patients to be properly treated and cured.

The field of rectal surgery has always been a rich one for the itinerant practitioner. The method of injection of carbolic acid has long been in vogue and has caused more suffering and fewer cures than any legitimate surgical operation. People have a horror of a knife. Why, it is hard to understand. In a proper operation the patient is quietly put to sleep and usually awakens free from pain and free from the memory of any pain. He remains quiet in bed a few days and in a week's time is out about his business affairs.

In the injection treatment he has to suffer the pain of the needle puncture, which is very severe, and also run the risk of sloughing tissue.

* Read before the De Witt County Medical Society at Clinton, Jan. 8, 1907.

This operation may have its uses, but as a routine method it is condemned by all good surgeons. It is unsurgical, non-scientific and unsatisfactory to the patient. These operations are listed in the category of minor operations. They are devoid of danger to life and are devoid of pain and suffering to the patient when properly performed.

Painful diseases about the anus interfere with the proper elimination of the waste products of digestion by causing the sufferer to resist, as long as possible, the painful ordeal of an evacuation. This leads to retention of poisonous waste products, a reabsorption into the blood, and hence an auto infection and a deterioration of the blood, and, lastly, to a chronic condition of ill health. Thus, while these diseases do not directly cause death, they lead to a slow and premature death.

The common diseases of the rectum are hemorrhoids, or piles, fistulæ, fissures, ulcers and eczema, or sometimes called itching piles. The latter is one of the most annoying afflictions to mankind. If it be an eczema it is easily and quickly cured by the application of a tar ointment. Unless we can discover the cause of this intense itching we will fail to cure our patient. We may find small shot-like thrombotic piles, upon the removal of which we give relief. Sometimes it is a pure neurosis and obstinately refuses to quit at any treatment. General treatment along common-sense hygienic methods will give most relief. A paroxysm of itching is as unbearable as a paroxysm of pain. Be careful not to promise a cure in a case of itching piles when you can not find any physical cause. There are two varieties of hemorrhoids—internal and external—the one internal to the sphincter, the other external to it. The latter are treated by an incision of the swollen vein and turning out of the blood clot. This is a simple operation and does not necessitate going to bed. The treatment of internal piles requires a rest in bed for a few days. Usually a patient may be up and out at his business in a week or ten days. The methods of treatment are legion, ranging from an injection with hypodermic syringe of carbolic acid and glycerin to the Whitehead operation. The latter consists in a complete removal of all the pile-bearing tissue around the anus. It is now almost universally condemned, as it results in a stricture, which condition is worse than the first. There is the ligature method, the oldest of all; also the clamp and cautery and excision methods. Any of these last three operations will cure the case if skillfully performed. I would not go to London, to St. Marks and to Gordon, to acquire methods in vogue, but I would to see and diagnose cases. The method used in both the above hospitals is by ligature. They do not care how long the patient remains in the hospital, nor how much pain he suffers. They are all charity cases. In the post-graduate hospital in New York City, where Gant holds forth, they use only the clamp and cautery method. Pratt cuts the tumors out and lets them bleed. I have used a method that is a combination. I dissect up the pile, clamp, cut off the bunch of veins and cauterize the stump. This prevents bleeding and there is no pain following, and the recovery is rapid. With this operation it is hard to keep the patient in bed for two days. They always say that they wish they had had the operation long

ago and avoided the suffering. All of the methods include the stretching of the sphincter.

Fistula is quite a common disease about the anus. This disease usually follows an ischio rectal abscess. These abscesses are rapid in their development and progress, because of the loose nature of the tissue in this region. Often they are caused by some seed or irritating particle making its way through the mucous membrane lining the lower bowel, giving rise to an infection and abscess. These abscesses should be opened early and freely so as to drain out the pus and thus avoid burrowing in all directions. This disease is not usually considered serious, but a patient died in Bloomington last fall from the general debility and exhaustion of a large burrowing abscess of the ischio rectal region. In some cases the sphincter ani should be cut, sinuses scraped and packed with gauze daily until they heal from the bottom. When these sinuses fail to heal and form openings upon the skin surface they form fistulæ and are constantly discharging, causing the patient much annoyance and inconvenience. To cure these we must resort to a surgical operation. The fistulæ must be laid open to the bottom and scraped and be kept packed with gauze until they heal from the bottom. Sometimes the anal region will resemble a starfish after it has been incised. It will require two or three weeks to heal these wounds, but the patient will not have to remain in bed the whole time. The results are very satisfactory in these operations.

A fissure or painful ulcer is a crack in the mucous membrane within the grasp of the sphincter. It is a small affair, but is of much importance because it is very painful. Every time the patient has a bowel movement he will suffer paroxysms of pain which, in time, will cause nervous prostration. He will avoid having an operation of the bowels as long as possible in order to avoid the suffering and pain. The diagnosis is made out from the above-named symptoms. To cure this, profoundly anesthetize your patient and stretch the sphincter muscle until you have temporarily paralyzed it. Keep the crack clean and apply some antiseptic wash, and by the time the muscle has recovered its contractility the fissure will be healed. I ought to say these patients can not even be examined for this disease without an anesthetic.

Of the less common diseases is carcinoma or cancer. Not only is carcinoma one of the most terrible scourges of mankind, but the rectum is one of the commonest situations for its manifestation. This is what an English writer says. Perhaps in our country statistics would hardly warrant the statement that the rectum stood second to the female breast as a seat for carcinoma. These cases may occur anywhere from the age of 16 to 75. The other main features upon which the symptoms depend are, first, invasion of normal tissue by new growth; second, reactionary infiltration, and, third, ulceration. The order of the symptoms is as follows: first, either ulceration or stricture; second, the invasion of surrounding tissues which will finally terminate in perforation of the rectal wall. Pain is not an early symptom. It comes with the obstruction and straining at stool. There is a fulness in the anal region, with painful defeca-

tion. Frequently there comes an uncontrollable diarrhœa, very offensive in odor, mixed with blood, pus and muco-pus. At times severe hemorrhages may occur. An examination at this time will perhaps reveal the presence of the growth. Allingham was of the opinion that the difficulty of passing flatus without a motion following, the peculiar odor of the discharge and the waxen pallor of the face were three highly significant features of rectal carcinoma. If low in the rectum the finger will touch the hard mass, which may bleed upon being touched. A diagnosis must be made from scybala, or enlargement and protrusion of neighboring organs. The prognosis is unfavorable. Some relief may be had by cutting away the mass. Excision of the rectum is a difficult and unsatisfactory operation. The most relief is obtained by doing a colostomy and making an artificial anus in the left side. This relieves the constant pain and irritation of the passage of fecal matter over the mass. I have seen several people quite comfortable and happy two years after such an operation. Fortunately we do not meet with these cases very often, but, as they come in the domain of my subject, I have taken opportunity to mention them in this brief discussion.

NON-TUBERCULOUS VILLOUS ARTHRITIS.

EDWIN W. RYERSON, M.D.

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Villous growths of the synovial tissues occur in several distinct conditions, such as joint-tuberculosis, arthritis deformans, syphilis and tabetic (Charcot) joints. They may also arise after injuries, probably in consequence of relaxation of the capsule due to muscular atrophy. Max Schueller believes that a constant organism, called by him the dumb-bell bacillus, is responsible for practically all of the cases in which none of the above constitutional or traumatic causes exists. He has christened this disease chronic villous bacillary polyarthritis. If we accept Schueller's conclusions, and there is every reason for so doing, we at once place his disease in the large class of the infectious arthritides. It is rather remarkable that Schueller, in his classification of joint diseases, does not give the infectious arthritides a separate place of their own. Schueller's disease is polyarticular, usually involving many joints in the same individual, and his picture of the typical case closely resembles that of the familiar atrophic form of rheumatoid arthritis.

The present paper deals only with that variety of villous arthritis which has no such constitutional cause as arthritis deformans or tabes, and which is presumably not due to bacterial infection. Painter and Erving have shown that it is a fairly common disease. It attacks, by preference, single large joints in the individual and usually has a definite history of previous traumatism. It is a disagreeable and more or less

* Read at the annual meeting of the Chicago Orthopedic Society, Dec. 13, 1906.

disabling affection, can be palliated by simple methods of treatment and is completely curable by operation.

The pathologic findings in the synovial tissues can be divided into two classes: first, simple hypertrophic reduplications or folds of the synovial joint lining, usually composed largely of fatty tissue, mixed with more or less numerous strands of fibrous connective tissue; second, actual masses of pedunculated villi, branching out like a bunch of grapes and springing from the synovial membrane at one or many points in its surface. The latter class is also largely composed of fat in the ordinary case. *Lipoma arborescens*, described by many writers, is probably to be included in this category, when it is not of tuberculous origin. None of my small series of operated cases was examined pathologically for the bacillus of Schueller, and I am, therefore, not in position to state whether or not they could have been due to his dumb-bell bacillus. As they all, however, followed sprains or bruises, none of which could possibly have infected the joints, directly or remotely, it seems as if any such bacterial origin for the trouble is unlikely. The larger joints are most apt to be involved, especially the knee. Three of my cases were of the ankle and one of the elbow. The knee cases numbered six. Adults are usually the sufferers, and during the third and fourth decades of life.

The onset of the trouble is gradual, and is characterized by a slowly-progressing sense of fulness in the joint, with increasing difficulty in carrying out the full range of motion. There is never the slightest tendency toward spasmodic contraction of the muscles, such as is seen in all cases of joint tuberculosis, and there is no pain, except when one of the folds or villi is caught and pinched between the articular surfaces of the joint. At such times a slight acute synovitis with effusion may be excited, but rarely. The pain caused by this pinching is not nearly as severe as in derangement of the semilunar cartilages, and the point is never "locked" as it is when a bit of the cartilage or a solid loose body is caught in the same way. There is never any fever, local heat or redness, and the joint is not tender, except to deep pressure over the villous masses. Localized swelling is nearly always seen, and the villous masses can frequently be plainly felt and rolled under the finger. In the extreme cases the whole capsule may be filled up and markedly distended. This is rare.

The treatment of the milder forms is fairly effective and consists of the application of narrow adhesive-plaster straps, criss-crossed over the joint so as to exert considerable pressure. They should not surround the entire limb, and in the knee, for instance, should extend from just below the insertion of the hamstrings upward diagonally across the knee to the plane of the other hamstring, each strap being overlapped by another until the whole front of the knee is covered.

This dressing should be replaced, as soon as it loosens, with fresh strapping, the zinc oxid rubber adhesive plaster being the best for the purpose. I have not yet cured any one by this method, but it always gives much comfort and relief, and the villous masses have certainly decreased in size in several of my patients after six or seven weeks of strapping.

Operation offers the surest means of cure, but it is not to be undertaken without a deep sense of responsibility. Only a few of the patients are so much disabled as to really demand it, and the danger of opening a knee joint, even under the best hospital routine, is always considerable. In this particular operation it is even greater than in many other arthrotomies, because of the difficulty of hemostasis. A knee joint which has been operated on and which has filled up with blood from capillary oozing offers a much more inviting soil for bacterial invasion than an empty joint. After a large number of villi or synovial folds have been excised it is practically impossible to control the hemorrhage. I do not like to leave many ligatures in any joint, no matter of what material they may be made. The actual cautery is too dangerous, and even hot water may cause trouble unless very carefully used. If it is cool enough to do no damage, it is usually too cool to stop the bleeding entirely, although it always helps somewhat. Chemical astringents are undesirable, and their action is transitory. I have relied chiefly upon twisting such vessels as could be grasped with the hemostatic forceps, squeezing with heavier pedicle forceps any surfaces which were oozing, douching with hot sterile water at 115° F. and exerting considerable elastic pressure around the joint, by tight bandaging over pads of wool for twelve hours. This has so far been sufficient, in my hands, to prevent any great postoperative distension by blood, and I recommend it for trial by others.

The operative technic can perhaps be shown more clearly by the report of the following case: Mrs. M. D., aged 26, two children. Has been operated on for the cure of lacerated cervix and perineum. About four years ago had some kind of trouble in right knee and was operated on under a diagnosis of internal derangement of the knee, as nearly as she can remember.

Over a year ago she had a slight discomfort in right knee, slowly growing worse until it now hurts her severely to go up and down stairs. At times the knee becomes partially locked, not with the severe and sudden complete fixation seen in displacement of the semilunar cartilages, but with considerable acute pain, such as might be produced by squeezing a fold of the skin between strong fingers. There is a sensation of constant fulness of the joint, and it has lately seemed a little swollen. There is never any pain when the joint is at rest, except directly after one of the attacks of "locking." At times there is a slight grating in the joint, but this is very infrequent.

Examination showed a somewhat swollen knee, with an old scar at the inner edge of the patella. Flexion was limited to a right angle. Complete extension was possible. These passive movements apparently cause very little pain. As the knee is flexed the swelling becomes more marked and is seen, especially at the level of the upper half of the patella, bulging away from it on either side. It feels semi-solid and does not fluctuate. The patella is floated up from the condyles to a slight degree. The pre-tibial triangle is normal. A tender area exists to the outer side of the patella over the edge of the condyle, and a small mass three-quarters of an

inch in diameter can be distinctly felt. It is movable and tender and feels like a loose body in the joint. An indefinite thickening, apparently capsular, is present over the entire joint, particularly noticeable at the lower half of the joint. The upper border of the capsule can not be distinguished, even upon attempting to squeeze the joint contents upward. Elevation of the leg likewise fails to distend the upper part of the capsule. There is evidently little or no fluid in the joint. There is no elevation of local or bodily temperature. Knee-jerks are normal. There are no sensory disturbances; no signs nor history of syphilis; no evidence of tuberculosis in lungs nor glands; no enlargement of inguinal glands on either side; no grating or crepitation in the joint.

A diagnosis of villous arthritis was made and the patient admitted to the Policlinic Hospital. With the assistance of Dr. F. R. Morton and Dr. C. M. Cline, the joint was opened by a longitudinal incision at the outer border of the patella. The outer surface of the capsule looked perfectly normal, but on cutting through it a large mass of fatty folds and villi at once extruded. The small mass felt at the outside of the patella could not be found and was evidently merely a part of the general hypertrophy. The villi and the fatty masses were removed partly by twisting out with forceps (to avoid hemorrhage) and partly by excision with curved scissors. About five ounces of tissue was removed. The capsule was cleaned out thoroughly, the bleeding checked with hot water and torsion, and the incision sutured in layers, first the capsule, then the lateral ligament of the patella and then the skin. The wound healed painlessly by first intention, and the patient left the hospital on the fifth day, wearing a posterior plaster of Paris gutter splint. She was advised to remove the splint on the seventh day and to flex the leg freely, but through a misunderstanding she failed to do this. On the fourteenth day she was visited for the purpose of removing the horsehair skin suture, and the joint was found practically immovable. Two days later she was anesthetized with nitrous oxid gas and the knee was forcibly flexed. The adhesions were surprisingly firm for so short a time, and a good deal of force was required to break them up. For a day or two she complained of slight discomfort on walking, but this soon passed away and she has had no further trouble. The knee has the full range of motion and seems in every way normal. This case represented a villous hypertrophy together with a lipomatous degeneration of the synovial tissue lining the capsule. It was not a true lipoma arborescens. I greatly regret that the specimen was not examined for Schueller's dumb-bell bacillus.

It will be seen that it is of great importance to begin passive motion early to prevent the adhesions which gave so much annoyance in this instance. Walking can begin a day or two after the operation, if necessary, but I much prefer to have the patient stay in bed at least five days without bending the joint. No attempt should be made to attain the full range of motion for ten days, only enough flexion being allowed to prevent short and strong adhesions from forming. At the end of two weeks all motions should be insisted upon.

SOME POINTS IN THE ANATOMY OF THE TEMPORAL BONE
TO BE CONSIDERED IN CONNECTION WITH MASTOID-
ITIS FOLLOWING ACUTE SUPPURATIVE
OTITIS MEDIA.*

J. HOLINGER, M.D.

CHICAGO.

To open an empyema of the mastoid process without complications is one of the simplest surgical operations. The anatomical conditions are in short as follows: The pus gathers in one or several large terminal cells which often are covered by a thin plate of bone only. The first stroke of the chisel drains it, in case perforation did not previously give it an outlet under the periosteum. But here is the first difficulty. Should you now curette? Certainly, if the bone is diseased. But if it is healthy an anatomical and physiological consideration gives the answer. The cells vary in size from a pea to a large hazelnut. They communicate with the central cell, called the antrum, but not with each other except through the antrum. They are lined with a mucous membrane, and act as reserve air tanks, for the middle ear. In acute inflammation of another mucous membrane, say of the nose, would you curette the interior of the nose in an acute coryza? The only difference is, that in the cells of the mastoid the secretions are not drained. Why should you, therefore, destroy an acutely inflamed mucous membrane which later on has to resume its function? We must follow up the cell we first opened to its origin in the antrum, whence a number of other similar cells emanate with their narrow necks. Their terminal enlargement might also be filled with pus.

I shall follow the plan of starting from the periphery and advancing towards the center like we proceed in the operation. The next anatomical point in the periphery of our domain is the interesting relation of the mastoid cells to the surrounding diploë of the temporal bone. There is no dividing line between the two. An acute suppuration may transgress the cells, advance between the inner and outer plate of the skull, and appear under the periosteum and skin in distant locations.

In 1894 in the Eye and Ear Infirmary I opened an abscess over the occiput the size of half a hen's egg. The outer plate was perforated and I followed the discolored diploë chiseling a groove, which lead in a somewhat irregular line to a large suppurating cell in the mastoid process. Another such favored route of these suppurations of the diploë leads forward to the zygomatic process and in the neighborhood of the eye. In some, though exceptional cases, the cells may extend that far.

Secondary demarkation and exfoliation of pieces of bone, weeks and even months after an operation may be the consequence, if you fail in tracing these paths. Furthermore, they may give an explanation for some distant abscesses of the brain, because such an overlooked focus in the diploë may later on perforate inwardly just as well as outwardly.

This leads us to endocranial complications in general. They are not

* Read before the joint meeting of the Chicago Medical Society and the Chicago Laryngological and Otological Society.

by far as frequent in acute as in chronic suppurations, therefore I shall not lose much time about them. There are three main points from which they start, which constitute the thinnest portion of the bony walls of the cells. They are often transparent in these places, or even perforated to a smaller or larger extent. We find them on the roof of the drum cavity and the antrum, secondly on the cells around the lateral sinus, thirdly at the floor of the temporal bone on both sides of the incisura mastoidea.

Extra dural abscess, pachymeningitis and brain abscess of the temporal lobe start from the tegmen tympani and antri. Extra dural abscesses, diseases of the sinus with pyemia, pachymeningitis and abscesses of the cerebellum emanate from the second area. What we call Bezold mastoiditis is propagation of the pus into the fascias of the neck, starting from the third point of least resistance, which is on both sides of the incisura mastoidea. At this very point I must not fail to draw your attention to the location of the facial nerve which passes in a vertical direction through the deeper interior part of those cells. It is very easily injured by promiscuously curetting.

We arrive at the antrum after finishing the periphery. The use of the curette must be avoided here for two reasons. Firstly, there is great danger of dislocating the short process of anvil from its attachment. Being detached it acts as a foreign body in the middle ear. Secondly, because we expect that the acutely inflamed mucous membrane should later on resume its function, and therefore must not be injured unnecessarily. These points based upon anatomical considerations are indispensable for good and quick results. As such I consider recovery within two to three weeks, normal hearing, and no suppuration. At the same time by doing as above stated we avoid injury to the facial nerve and posterior semicircular canal, both of which project from the medial side into the cavity of the aditus. It is not possible to injure these parts if you keep to the lateral wall of the aditus and antrum. The medial wall is very rarely diseased in acute mastoiditis.

Attention was drawn to another important anatomical point very recently. Permit me for better illustration to cite the history of a case. A man examined about three years ago at Alexian Brothers Hospital had the typical walk and speech of one who was under the influence of liquor. He assured me however that he had not touched any since the Friday previous, when he was seized with a severe attack of earache. The next day a paracentesis was made. Sunday he was worse, complaining especially of headache. When I saw him Monday I made a diagnosis of meningitis. Tuesday he died. At the postmortem we found streaks of pus along the blood vessels on the inside of the dura of the base of the skull radiating from a yellow bag of pus in the dura of the posterior surface of the pyramid of the temporal bone. This bag was the saccus endolymphaticus. The pus had perforated into the labyrinth and followed the aquæductus vestibuli. It has been advocated to raise the dura of the posterior surface of the pyramid in such a case and explore the aquæductus and the saccus endolymphaticus.

Finally we have to say a few words about the individual variations, the racial variations and the variations at different ages. It is a fact that one individual has a great number of large cells in his mastoid, another only a few small ones, and another none at all. Between the extremes there are all the different transitions. It is hard to ascertain before an operation whether we will have to expect large or small cells, or, as it is called, whether a mastoid process is pneumatic or not. There is one point which has been made and denied repeatedly. A few experiences have of late influenced me rather in its favor. The general form of the skull is of great value in the judgment whether or not we have a pneumatic process and especially whether the sinus and the dura come close to the middle ear and external canal. Long narrow skulls, dolichocephalic skulls have pneumatic processes oftener than the brachycephalic or round skulls. In round skulls the external canal is proportionately longer, that is the ear lies deeper. To make matters worse we often find no cells at all so that the sinus and dura are very close to the external meatus, and the middle ear.

The differences in the development of the cells at different age of an individual are equally great. In the new born there is only a small antrum and no cells. At the age of six there are cells of considerable size. So that between one and six years the whole system of cells develops.

Nothing was said about the bulb of the jugular vein and a number of other anatomical points. The purpose of this paper is fulfilled if I succeed in leaving the impression that, while often a mastoid operation is nothing but draining a superficial abscess, we have no possibility to decide, in advance, what anatomical difficulties will present themselves in the course of the operation.

THE DIAGNOSIS OF TRAUMATIC RUPTURE OF THE ABDOMINAL VISCERA.*

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CHICAGO.

In the examination of a patient for a suspected rupture of the abdominal wall or one of the viscera, two questions present themselves: First, has any viscus been injured? Second, if so, which viscus or viscera? Surgical intervention is indicated in every case, if the patient's condition is such as to permit of an operation. In order to be of any benefit, however, the operation should be performed within the first twelve hours. It is for this reason that it is necessary to make the diagnosis as early as possible. A single examination will often not be sufficient. It is best to examine the patient at short intervals, say of an hour, in order to watch any changes in the general condition and the gradual appearance of such local signs as are indicative of visceral injury, such as muscular rigidity, tenderness, etc. In the examination of such a patient it is

* Read at the meeting of the Chicago Medical Society, Oct. 31, 1906.

advisable to follow a more or less fixed routine. This can be divided into four parts: 1, The history of the accident; 2, the general condition of the patient; 3, the local examination of the lower portion of the thorax and of the abdomen itself; 4, the search for symptoms of injury of individual viscera.

1. *The History of the Accident.*—Forces which could cause rupture of the abdominal wall or viscera act either directly upon the organ injured or upon the entire abdominal contents. The former is known as circumscribed, the latter as a diffuse force. It is of some importance to ascertain the exact mode of injury. As examples of a circumscribed, i. e., quite localized, force may be mentioned kicks or blows, blunt objects thrown at the abdomen, such as a brick or hammer, a fall across a board or some similar substance. Such a circumscribed force is more likely to cause a rupture of a hollow viscus, like the stomach, intestine, gall bladder or urinary bladder. Examples of diffuse force are, being run over, crushed between two objects, etc. A diffuse force will, as a rule, be more likely to be followed by a rupture of a solid viscus, like the spleen, liver, pancreas or kidney, or by a laceration of the abdominal muscles. There are, of course, exceptions to these facts; for example, in two cases of my own, of rupture of the bladder, the injury followed a crushing force. In one the patient was caught between two street cars moving in opposite directions. In the other the patient was run over. In both, the accompanying condition was a fracture of the pelvis. A third indirect mode of injury is after a fall upon the head, buttocks or feet. The organ follows the line of force and is torn during the recoil.

2. *General Condition of the Patient.*—This is the second factor to be considered in making a diagnosis. Clinically, we encounter five classes of cases: (1) Those with such marked primary shock symptoms that the patient does not improve, but death follows a short time after the injury.

(2) Those who show marked signs of shock immediately after the accident and do not improve, their symptoms gradually becoming those of internal hemorrhage. These patients either die in a few minutes or hours or the signs of internal hemorrhage persist, so that a diagnosis of bleeding into the free peritoneal cavity or retroperitoneal tissue can be made. In a recent case of the writer's, of fracture of the pelvis with rupture of the bladder and laceration of one of the iliac vessels, the persistence of the symptoms was thought to be due to shock, but were, in reality, the result of internal hemorrhage.

(3) Patients who have suffered from shock before being seen, but whose general condition is so unchanged at the time of examination that no visceral injury is suspected until the symptoms of a beginning peritonitis or of a gradually increasing anemia appear to direct attention to the abdomen. In such cases an exact history of how the injury occurred will often cause one to watch for abdominal symptoms. To this class belong those cases of injuries of the thorax, such as fractures of the ribs, contusions of the lung, etc., in which the thought of a possible abdominal

injury has not occurred to the physicians in charge until persistent vomiting or other signs of peritonitis or internal hemorrhage show themselves.

(4) Cases in which there are such marked primary shock symptoms that one would positively expect serious visceral lesions. The symptoms disappear and nothing is found to explain them.

(5) Patients who have sustained an abdominal injury through the action either of a circumscribed, diffuse or indirect force and have shown no symptoms immediately after the accident.

After a variable interval, however, from 48 hours or to ten days, symptoms appear which indicate that a serious visceral lesion has been overlooked. If a clot has become dislodged, the symptoms are those of internal hemorrhage. If a contusion of the intestinal wall has occurred, it may result in perforation, or a tearing off of the mesentery may be followed by gangrene and the symptoms of peritonitis may appear the second or third day. If there has been extravasation of urine or blood around a ruptured kidney or around an extraperitoneal tear of the bladder, the symptoms of sepsis may appear some days after the accident.

Under shock symptoms are understood pallor of the skin and visible mucous membranes, rapid, weak pulse and respiration, cold clammy sweat, stupor or unconsciousness, lowering of blood pressure, dilated pupils and vomiting immediately following the accident. In making an examination of the general condition of the patient, one should note whether the above symptoms of shock are present or absent. In case they are present and persist for more than a few hours, one must look for local signs of visceral injury. If the patient does not react from the shock, one must look for some cause in the abdomen. Extreme pallor, a weak, rapid pulse with but little tension, thirst, restlessness, shallow respirations and a decrease in blood pressure, as determined by the Riva Rocci instrument, indicate internal hemorrhage. If such is the case, it may be impossible to distinguish the condition of internal hemorrhage from shock, except by the absence of unconsciousness, cold clammy skin and dilated pupils. There are cases reported in which both the symptoms of shock and internal hemorrhage appeared immediately after the accident, so that it is impossible to distinguish between them until some hours had passed and the hemorrhage symptoms predominated. If the condition is due to hemorrhage, the patient becomes paler, more apathetic and somnolent, the pulse gets smaller and more rapid and the respiration shallower, even when there is no peritonitis present. The writer has, on the other hand, seen a number of cases of severe intraperitoneal hemorrhage in which the pallor was not a noticeable feature, the primary anemia having been partially recovered from. These exceptions are particularly mentioned to emphasize the facts that in some cases it is almost impossible to make a diagnosis before operation and that too much reliance should not be placed on the presence or absence of any one symptom.

3. *Local Signs of Injury*.—Examination of the skin and abdominal wall. In injuries of the abdominal wall or viscera with but slight or no

external signs, one should note the presence of an accompanying fracture of the lower ribs or of cutaneous hematomata. In the same manner, the presence of a palpable gap in the abdominal muscles, with or without the appearance of a swelling having all the characteristics of a hernia, is of value. From an experience of fourteen cases of traumatic rupture of the abdominal viscera or wall with slight or no external signs, I have come to regard the presence of muscular rigidity, of localized or diffuse tenderness, of pain on pressure and of dulness in the flanks or above the pubes as the most important local signs. The rigidity is of special value, if it is most marked over the point of injury and can be observed to increase in extent from hour to hour. This is also true of tenderness on pressure. The muscular rigidity is due to a reflex contraction of the abdominal muscles, called the "defense musculaire" by French surgeons. It is one of the most characteristic symptoms and is quite marked at an early stage over the injured viscus. This is also true of the pain and the tenderness on light pressure, which usually accompanies the rigidity. These symptoms are indicative either of peritoneal irritation due to the presence of blood or of peritonitis due to the escape of bowel or bladder contents. This rigidity and tenderness gradually extends over the entire abdomen. The steady increase in pulse rate and in the degree of tympanites and the onset of vomiting, etc., soon show the presence of a complicating peritonitis. If pain is due to injury to the abdominal wall alone, muscular rigidity is never as marked and passes away in a few hours, especially after the use of hot applications as recommended by J. C. Hubbard.¹

In the early hours after an injury, especially in those cases in which there are practically no signs of shock or of internal hemorrhage, one can detect dulness in the flanks or above the pubes. Such dulness, if it changes to tympany when the patient is turned upon the opposite side, means free blood or urine in the peritoneal cavity. If the dulness is only above the pubes and does not vary with change of position, it is due to an extraperitoneal rupture of the bladder. Unfortunately such free fluid can seldom be demonstrated at an early stage, owing to the muscular rigidity. At a later stage, its presence is often obscured by the tympanites. I have found it most often above the pubes in intraperitoneal hemorrhage.

4. *Symptoms of Injury of Particular Viscera.*—A convenient division for the purpose of diagnosis of the symptoms of injury of the individual viscera is: (a) Those cases in which symptoms of injury of the alimentary canal predominate; (b) those in which symptoms of injury of the urinary organs predominate; (c) those in which signs of internal hemorrhage predominate.

(a) Symptoms of injury of the alimentary canal:

(1) Vomiting.—Nausea or vomiting, continuing for some hours after the receipt of an injury, are very characteristic signs of the presence of an

1. Boston Medical and Surgical Journal, April, 1906.

injury to the stomach or small intestine. If the vomitus contains blood, it indicates an injury to the stomach. If the vomiting is bilious in character, a wound of the small intestine should be suspected. This recurrence of vomiting has come to be regarded as the most valuable sign of intestinal injury.

(2) Obliteration of the Liver Dulness.—This sign, if present in the form of tympany, replacing a normal hepatic dulness, is of great value. Unfortunately, however, it is rarely present, so that but little weight can be placed upon its absence.

(3) Presence of Evidence of Free Fluid in the Peritoneal Cavity.—As was stated before, the presence of free fluid in sufficient quantities to permit of its detection by percussion is so rare in the early hours of a stomach or intestinal injury as to be of little value. If, however, a changing line of dulness in the flanks and above the pubis can be found, it is indicative of such visceral perforation. One must, however, exclude the possibility of intestinal coils full of fluid feces and the possibility of free hemorrhage giving rise to the same signs. The most typical symptoms, aside from the recurrence of vomiting and of increasing rigidity and tenderness at an early stage of gastric or intestinal perforation, are the gradual rise in the pulse rate and the presence of an increasing leucocytosis. If an increase in the pulse rate is not due to primary shock or hemorrhage, such a rise is strongly indicative of a beginning peritonitis.

(4) Tympanites.—If, in a patient who has sustained an injury of the abdomen in any of the modes above described, there is a gradual increase in the distension of the abdomen and in other symptoms, such as inability to pass flatus, there can no longer be any question as to the existence of a perforation. As was stated above, in the majority of cases, a diagnosis made when tympanites is marked is of comparatively little value from an operative standpoint, since septic paresis of the intestines is already well advanced. The passage of blood with the bowel movement is also a positive sign of intestinal injury. If black and tarry in character, it indicates hemorrhage high up toward the stomach or the duodenum. If fresher in color, it indicates hemorrhage lower down. If the mesentery is torn from the bowel or an area of contusion in the wall of the gut, with subsequent sloughing, has resulted from the accident, the symptoms of peritonitis will not appear so early. The secondary perforations or gangrene of the bowel will cause symptoms after 12 to 48 hours. If perforation occurs suddenly, the onset may be as acute as in a typhoid perforation.

(b) Symptoms of Injury of the Urinary Organs.—These vary with the degree of the injury. In rupture of the kidney the most characteristic symptoms are the following: (1) Pain in the lumbar region, usually of a severe boring character. The pain often radiates down the ureter to the testis of the same side, as in a typical renal colic. (2) Tenderness on pressure either from in front or directly over the kidney region from behind. (3) A gradually increasing swelling over the renal region of one side, causing some dulness in the corresponding flank. Such a tumor may be the result of extravasated blood or of urine or both.

(4) Hematuria.—This varies greatly. It may be quite severe and persist for a number of days and then gradually diminish in amount. Again, blood may only be demonstrable by the aid of the microscope. Hematuria may, at times, be absent and yet extensive laceration of the kidney may have occurred, as in a recent case of my own, in which there was pulpification of the kidney, as a result of a crushing injury, without any blood in the urine. The ureter was blocked by a large clot, so that no hematuria occurred.

In order to state positively that hematuria is from the kidney, the bladder should be washed out and some of the irrigating solution left in the bladder. This rapidly becomes tinged with blood, as the latter escapes from the ureter and passes through the catheter, which has been left in place. In some cases, the above symptoms of injury to the kidney may be accompanied by evidences of displacement of the kidney, as determined by palpation of the abdomen.

There is an injury or rupture of the kidney which requires special mention. It is called intraperitoneal rupture of the kidney and occurs most frequently in children, in whom the peritoneum over the kidney is very thin and easily torn. This may also occur in adults. In this form of renal injury, hemorrhage occurs directly into the general peritoneal cavity instead of into the retroperitoneal tissues, giving rise to symptoms which resemble, in every particular, the symptoms of internal hemorrhage due to rupture of the spleen or liver and can not be differentiated from the latter before operation. It is impossible to diagnose an injury of the ureter until a tumor forms along the course of the ureter, accompanied by diminished secretion of urine and hematuria.

Injuries of the bladder may be intra- or extra-peritoneal. In extra-peritoneal tears, there are evidences of dulness above the pubis, the area of dulness not changing with change of the position of the patient; or there is bulging toward the rectum at the base of the bladder to be felt *per rectum*. Intra-peritoneal ruptures of the bladder can not be differentiated as such, except when symptoms of peritonitis appear. A diagnosis at this time, as was stated before, is of comparatively little value from an operative standpoint. In both extra- and intra-peritoneal ruptures of the bladder, the catheter can be easily passed into the bladder. The urine is slightly blood tinged, much less than in injuries of the kidney, and the quantity of urine obtained is very small or there may be none at all.

The injection test for perforation or rupture of the bladder is but little to be relied upon. This test consists in inserting into the bladder a definite quantity, usually from four to six ounces, of sterile water. If the bladder is perforated, the greater portion or all of this leaks out into the peritoneal cavity or into the extra-peritoneal tissue, and a smaller quantity than was put in returns through the catheter. This test is unreliable, because the tear or perforation may be valve-like in character, allowing but a small quantity to escape or the urethra may be torn at the neck of the bladder. The most reliable signs of injury of the bladder at

an early stage are (a) the history of and the location of the injury; (b) the presence of practically no urine in the bladder when catheterized, and then bloody and in small quantity; (c) the pain over the bladder; (d) the constant desire, but inability to urinate. When peritonitis has set in, it is impossible to state in any case whether this has been due to perforation of the bladder or of some portion of the alimentary canal. Fractures of the pelvis are often accompanied by injuries of the bladder and urethra.

(c) Cases in Which Symptoms of Internal Hemorrhage Predominate.—These will be found more or less characteristic of ruptures of the liver or spleen or of the intra-peritoneal ruptures of the kidney. Pain, localized tenderness and rigidity, situated over the splenic region, accompanied by evidences of hemorrhage into the peritoneal cavity, are indicative of injury of the spleen. The same symptom, located over the region of the liver, especially if the pains radiate to the shoulders, is typical of injuries of the liver. In injuries of the liver and spleen and of those of the kidney in which the blood escapes into the general peritoneal cavity, the diagnosis may be made from these local signs, such as tenderness, rigidity, etc., added to the presence of a shifting line of dulness in the flanks, i. e., of free fluid in the peritoneal cavity. Icterus, when present, is of great value as indicating an injury of the liver. The presence of free blood in the peritoneal cavity, whether due to an injury of the omentum or of the mesentery, or the deep epigastric artery, or of the liver, spleen or kidney, causes early symptoms of so-called peritonism or peritoneal irritation. These are also the same as those of a beginning peritonitis, but are less rapid in their onset. They consist of gradually increasing pulse rate, tympanites and leucocytosis. These, however, gradually subside, if the blood remains aseptic and is absorbed. Injuries of the pancreas cause shock, vomiting and localized pain over the epigastrium and often distension of the upper abdomen. Fractures of the ribs accompany the subcutaneous injuries of the liver and spleen in many cases. In conclusion, I would urge the careful examination of every case in which the abdomen has been injured by some non-penetrating, i. e., blunt force. It is of less importance to be able to diagnose the particular viscus injured than to be able to say that operative intervention is necessary. With the exception of injuries of the kidney, the prognosis in general of non-operated cases is bad. From 80 to 90 per cent. of these die. Early diagnosis has already changed this percentage to 40 to 50 per cent. recoveries in the last fifteen years through early operation, and we can hope for still better results.

POSTDIPHTHERITIC HEMIPLEGIA WITH REPORT OF A
CASE.*

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CHICAGO.

It is my purpose to relate the history of a case which tends to show that a paralysis may and does occasionally occur in the course of a diphtheria not belonging to the type of so-called diphtheritic paralyses; on the contrary, completely at variance both in clinical aspect and pathology with that familiar group.

At the time of the patient's illness he was seen by the family physician, Dr. W. E. Hall, to whom I am indebted for most of the data noted during the acute course of the disease. I am also under obligation to Dr. William D. Krohn for referring the case to my care.

W. L., male, aged 16, is now a third-year high-school student. The family history is negative. His father and mother are living and well. The patient is an only child. With the exception of measles contracted at the age of 4, the period of childhood was uneventful up to the time of a severe attack of diphtheria, which constitutes the etiologic factor in the patient's present disability. This disease appearing at the age of 12, had an insidious onset and was regarded with indifference until the third day of the illness, at which time Dr. W. E. Hall saw the case for the first time. Dr. Hall in telling me of the case, said that the patient was desperately ill, deeply cyanosed, suffering from considerable respiratory embarrassment and palatal palsy in the presence of an extensive nasal and laryngeal diphtheritic membrane. He immediately administered 2,000 units of antitoxin and two days later another 2,000. The alarming symptoms subsided and the patient made a rapid convalescence until about the twelfth day. He had then been sitting up for two or three days. Awakening on the morning of the thirteenth day, he asked for a tumbler of water, but let the glass fall before he could raise it to his lips; almost simultaneously there was a brief period of about three minutes' unconsciousness. Recovering from this, it was noticed that his speech was thick and queer, but he could understand and make himself understood. Not until he asked for pen and paper with which to amuse himself by sketching did he realize his inability to move the left hand. Dr. Hall had been sent for and was able to establish the fact of a left-sided paralysis. The patient is unable to say whether the disability appeared first in the leg or in the arm. In fact, he was unaware of the leg involvement. There is no evidence to the effect that the patient was aphasic. The speech defect was purely one of dysarthria. The order of recovery was as follows: The leg got better first, the arm next and simultaneously the speech. It was fully three months before he was able to get about with ease. At no time have there been twitchings or convulsive seizures.

* Read at the meeting of the Chicago Pediatric Society, Dec. 18, 1906.

STATUS PRÆSENS (IN BRIEF).

Four years have now elapsed since the onset of his paralysis, and the young man presents himself with an unusually well-developed physique for his age, a healthy color, firm muscles and apparently sound organs. Her eyes are in all respects normal. The cranial nerves show no impairment. There is neither facial asymmetry nor deviation of the tongue. The patient's attitude and carriage in walking are characteristic of his disability in that the left forearm slightly flexed at the elbow is held more or less closely to the chest and the fingers are forcibly drawn into the palm of the hand. There is moderate though notable circumduction of the left leg in walking, giving rise to the so-called "sickle-gait," common in hemiplegia. The vasomotor phenomena of blanching and reddening of the skin on pressure are not wanting, and the dermal surfaces feel considerably cooler to the touch. Other postplegic motor symptoms, such as tremor, athetosis and associated movements, are lacking. The contractures are of the spastic variety, but nowhere marked except at the distal parts of the extremities, chiefly the fingers. The very slight atrophy present is consistent in degree with that usually noted in cerebral lesions. The entire left side is only moderately spastic. The upper arm reflexes, especially at the wrist, are exaggerated on the paralyzed side; a brisk patellar and an Achilles jerk are present on the left side and the Babinski toe-sign is most positive, the latter being best elicited in this case by stroking the outer border of the foot or irritating the plantar surface transversely; stimulating the foot along its inner border and under the great toe fails to reveal it. The great toe is in a constant state of hyperextension. The Oppenheim and Gordon signs are absent. Sensory phenomena are negative. The urine is normal.

COMMENTARY.

There is nothing so extraordinary about the postplegic state that it should receive special mention, nor is it remarkable for a case of diphtheria to develop in its course a paralytic sequel. Quite rare is it, however, for that sequel to be of the hemiplegic type, vascular in origin, central in site and permanent in its symptom-complex. In all these respects, then, the present case is at variance with the well-known forms of postdiphtheritic paralyses. The more was I impressed with this departure from the commoner palsies following diphtheria on noticing the paucity of references in the literature.

Conceding that many cases go unrecorded, hemiplegia following diphtheria is nevertheless a very uncommon occurrence. I find that the neurologic and pediatric literatures are in agreement on this infrequency. Gowers says it is very rare; Bernhardt states "*Die cerebrale postdiphtheritische Lähmung ist sehr selten.*" Hensch reports 3 cases. Mendel has observed 3 and Remak 2. Baginski chronicles 3 with autopsy findings, and Levi, in 1897 had collated 34 cases from all sources, to which he added 1 of his own, observed in Monti's clinic and referred to in his paper as "*eine ausserordentlich seltene hemiplegische Form der diphtherischen Lähmung.*"

Slawyk,¹ writing in 1898, was able to collect only 50 cases. To this series, Rolleston after a thorough search in 1905, attached the records of 14 more and added one instance under his own observation, making a total of 65 cases. Woolacott² states that in 4,000 consecutive cases of diphtheria at the Eastern Hospital (London) hemiplegia occurred only twice. He adds that both patients recovered. Rolleston's case is one of the only two instances of hemiplegia occurring in this large series of 4,407 consecutive cases of diphtheria admitted to the Grove Hospital from 1899-1905. Rolleston,³ in his tabulation of 65 cases, emphasizes the following data:

1. The sex relation was 20 males to 30 females; in 15 cases the sex was not given.

2. The age at time of onset varied from 1½ to 15 years. The age of my patient at time of onset was 12 years, and in this connection I should like to again refer to Levi,⁴ who, remarking upon the age incidence, pointed to the fact that the cerebral lesions in diphtheritic cases all presented in older children ranging from 8 to 15, not one occurring in infant years. Returning to Rolleston's tabulation:

3. The hemiplegia was right sided in 38 cases, left sided in 22; in 5 cases data are lacking.

The dates of occurrence in the course of diphtheria are quoted to have been as follows: First week, no cases; second week, 9 cases; third week, 20 cases; fourth to sixth week, 11 cases; convalescent period, 14 cases; date not given, 11 cases.

The writer further records: Death in 18; recovery in 43; no data in 4. Autopsies were held in 15 cases, and the following findings noted: Hemorrhage in 1; thrombosis in 2; embolism in 10; embolism and thrombosis in 1; sclerotic atrophy of one cerebral hemisphere in 1.

I have detailed these facts, to me interesting, chiefly because the text-book chapters on diphtheria in pediatric literature are singularly devoid of information concerning this particular lesion of the central nervous system in consequence of the Klebs-Loeffler infection. It is most regrettable that this statistic does not include a consideration of the cardiac findings in each case, or at least in those in which autopsy revealed cerebral embolus. It would also be interesting to know in what cases antitoxin was given, when, and in what quantities. Taylor,⁵ for instance, in his latest edition, makes no mention. I think, of the occurrence of hemiplegia in diphtheria, in that chapter relating to the diphtheritic paralyses. In his remarks on infantile hemiplegia, however, he mentions the fact that diphtheria is one among several antecedent infective factors in the production of infantile hemiplegia.

Strictly speaking, hemiplegia is a state never induced by disease of the nervous system *per se*, that is, of nerve structure; it is engendered primarily and always by a vascular lesion, a thrombosis, embolism or

1. Slawyk: *Charité Annalen*, vol. xxiii, 1898, S. 385.

2. Woolacott: *Lancet*, May 6, 1899.

3. Rolleston: *Rev. for Neur. and Psych.*, November, 1905.

4. Levi: *Archiv. f. Kinderheilk.*, 1897, Band 22.

5. Taylor: *Nervous Diseases in Childhood*, 1905.

hemorrhage. As Levy correctly states, nephritis and cardiac changes must be counted as predisposing factors. In a few cases, the pathology is that of an encephalitis.

Although autopsic examination reveals the nature of the vascular occlusion and points out to the site of the intracranial lesion, a clinical distinction between embolism, thrombosis and hemorrhage is not always possible. What holds good of hemiplegia in a general way applies to the diphtheritic cases as well, and Slawyk has accentuated this fact. The knowledge of cardiac involvement is, of course, an excellent diagnostic criterion of cerebral embolus.

Based upon the mode of onset, the very brief period of mental obscuration, the apparently monoplegic progression of motor loss—the quick return of the very good function and power, and the ultimate partial though permanent disability, I incline to the belief that a thrombotic process occurred on the right side of the brain in the territory of the Sylvian fissure.

In marked contrast, the paralyses incidental to diphtheria, the so-called diphtheritic palsies, come about by the direct action of a toxic substance upon nerve tissues, the most obvious changes occurring in the peripheral nerve, setting up a peripheral neuritis.

ILLINOIS MEDICAL JOURNAL

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MARCH, 1907.

OUR ADVERTISING PAGES.

It is perhaps only proper that we call the attention of our members to the remarkable change in the advertising columns of THE JOURNAL. Beginning with the March issue, we believe that all objectionable advertisements have been eliminated, and that only strictly ethical preparations will be presented to the eye of our readers. Certain it is that the Council of the State Society has determined to conform to the rules of the American Medical Association in the selection of advertisements, and that this rule will hereafter be rigidly adhered to. This action means an era of distinct advancement in the history of the Illinois State Medical Society and should appeal to all our members for their active interest and support in pushing only reliable remedies and throwing out of their armamentarium all of those remedies condemned by the Council of Pharmacy of the A. M. A.

The position of THE JOURNAL and of the State Society will be immensely strengthened if the individual members take decided action in this matter and on the contrary our efforts will be nullified if the members individually continue to prescribe those remedies whose composition

is uncertain or unknown to them. As has been stated many times in the past, the Council will be gratified to hear from individual members concerning any advertisement carried by THE JOURNAL.

BILLS INTERESTING THE MEDICAL PROFESSION BEFORE THE 45TH GENERAL ASSEMBLY OF ILLINOIS.

In this issue will be found the text of a number of bills of particular interest to the medical profession and we recommend to all our readers a careful study of all these and prompt action in regard to all of them. Should they meet your approval be sure to write or confer with your member of the House or Senate, expressing such approval or disapproval, that the representative may have full knowledge of the wishes of those members of his constituency best able to judge as to the merits or demerits of the bills in question. Our colleagues must remember that those pushing these bills, whether objectionable or not, are losing no opportunity of impressing all the legislators with the desirability of their passage, and should they desire to have their wishes known, it is absolutely necessary for them to use activity equal to the friends or enemies of these measures. Please note particularly Mr. Schermerhorn's bill amending the garnishment law. Every physician in the state is interested in this bill.

THE OSTEOPATHIC BILLS.

In both the Senate and House of the 45th General Assembly bills for the creation of a Board of Osteopathic Examiners have been introduced and active efforts are being made by practitioners of osteopathy to secure their passage. On Tuesday, February 19, a meeting of the judiciary committee of the House was held, presided over by Mr. Chas. Allen of Vermilion, who had introduced the bill in the House. At this meeting Dr. L. C. Taylor, chairman of the legislative committee, and Dr. R. B. Preble, chairman of the committee on public policy of the state society, made able arguments against the passage of this bill, and we believe that a favorable impression was made upon the committee, and that in all probability the bill will not be reported out favorable from the committee, if reported out at all.

These gentlemen called particular attention to the fact that the provisions of the bill as introduced would, if enacted into a law, enable practitioners of osteopathy and graduates of osteopathic schools to secure all the advantages of medical practice after a very inadequate preparation. The bill provides for only two years in high school, whereas medical practitioners are now required to have four years of high school training and only three courses of lectures are required in osteopathic schools, whereas four years are now required of authorized practitioners.

We are glad, however, to say that gradually the osteopaths are raising their requirements, and no doubt in another two years they will be willing to concede in their bills all the requirements now demanded of the highest class of practitioners, and when this is done, there will be no controversy between them and the members of the medical profession.

SPEAKER SHURTLEFF'S RESOLUTION CONDEMNING CLINICS AT THE ELGIN ASYLUM.

The meeting of the 45th General Assembly in the year of our Lord 1907, will doubtless be historic, because of the remarkable exhibition presented by the Speaker of the House in presenting the following resolution condemning the holding of clinics at the state institutions for the treatment of the insane:

Mr. Shurtleff's resolutions were as follows:

WHEREAS, There has been inaugurated at the Northern Hospital for the Insane at Elgin, Ill., by the superintendent of said institution a series of clinics for the benefit of the Fox River Valley Medical Association of northern Illinois and such other doctors and members of the medical profession that may see fit to avail themselves of the same; and,

WHEREAS, Said clinics consist of lectures delivered by the superintendent of said institution and other members of the medical profession, at which various inmates of said institution are brought in before large audiences of physicians and used as subjects in explaining and presenting various phases of said lectures; and,

WHEREAS, Said clinics are purely for the purpose of medical study and technical education to said physicians and members of the medical profession, and in no respect treat or tend to treat the patient or insane person for the malady under which he is suffering; and,

WHEREAS, The superintendent of the state institution has sent out and is sending out to members of the Fox River Valley Medical Association of northern Illinois, consisting of several hundred members, and to many other persons, invitations to attend said clinics and be entertained at the said institution under a form as follows, that is to say:

"Illinois Northern Hospital for the Insane—V. H. Podstata, superintendent, Elgin; B. W. Woodworth, Chicago, and D. E. Wood, treasurer of board of trustees. In accordance with plans partially arranged at the last meeting of the Fox River Valley Medical Society you are invited to attend clinics to be given at this institution as follows: On the evening of December 10, beginning at 7:30 o'clock, there will be a short talk on the clinical differentialism of various classes of insanity, illustrated with cases, by Dr. V. H. Podstata. On December 17, at the same hour, there will be a clinic on parietic dementia, course of treatment, by Dr. Frank M. Jenks. Early manifestation of parietic dementia, Dr. H. G. Hardt. While these clinics are primarily for members of the Fox River Valley Medical Association, let it be understood that any member of the profession will be made welcome, and if you will kindly ask any of your medical friends to be with us on these evenings it will give us pleasure to entertain them in the way that has been indicated. Early in January these clinics will be continued, notice of which you will receive in due time;" and,

WHEREAS, It is not the purpose of the people of the state of Illinois in providing and furnishing various charitable institutions, and especially the State Northern Hospital for the Insane at Elgin, and under the law of the state committing citizens of the state to said institution, that the said inmates and unfor-

fortunate persons committed to said institutions should be used as examples or specimens or formula of parietic dementia and exhibited to audiences of the medical profession or otherwise for the purpose of technical study on the part of said institution, and it is not proposed in the establishment of said institutions that members of the Fox River Valley Medical Association or any other association should be entertained at said institutions as in said invitation suggested. Now, therefore, be it

Resolved, by the members of this house, That it appearing that these recitals in this resolution are true, we do hereby condemn said practice of holding clinics in said institution and that we do hereby protest against the exhibition, use, or treatment of any of the inmates of said institution in no other manner or for any other purpose than kind and careful treatment of said inmates, and that we members of this house especially condemn and protest against the series of schools and clinics as organized and put in operation and attempted to be organized and put in operation by the state superintendent of the Northern Hospital for the Insane at Elgin, Ill.

A sensation was caused when this resolution was introduced, and much discussion ensued, which culminated at the meeting of the appropriation committee, to which the resolution was referred, on Tuesday, February 26, at the State House. At this time Speaker Shurtleff took the floor and defended his resolution. He also endeavored to show that the statutes establishing the asylums many years ago did not provide for such a use of the inmates of the institutions. It was evident to all present that Mr. Shurtleff spoke with deep feeling on this subject, and that for reasons which need not here be given, Mr. Shurtleff has a deep-seated prejudice against instruction by the methods of a clinic such as was held at Elgin. We believe it to be a great mistake to harshly criticize Mr. Shurtleff for this opinion, which does credit to his heart, and yet shows that his judgment in this matter has been warped by his feelings.

Defense of the clinics was made by Dr. Podstata, Rev. Dr. Hisch, Dr. G. W. Webster, Dr. J. F. Percy, Dr. F. P. Norbury and Dr. L. C. Taylor.

As would be supposed the prejudices of a number of members of the committee and their mistaken ideas of what really constitutes a clinic, and what is intended to be gained by it, was exhibited by the questions which were put to the different speakers as they addressed the committee. One unfortunate feature of this controversy is the unwillingness of the average member to concede that the state institutions of Illinois have been conducted in any but the most efficient manner in the past fifteen years. We referred to this subject in our last issue and commended the bold stand which had been taken by the President of the State Board of Public Charities in stating the truth regarding the public charities of Illinois. However, there is no disguising the fact that Dr. Billings' statements have not been received in a kindly spirit by the members of the Legislature.

At the time of this writing it appears probable that the resolutions of Speaker Shurtleff will be endorsed by the House and that Superintendent Podstata will receive blame instead of praise for his efforts to properly conduct the institution placed in his charge. It is more unfortunate for the

public than for the medical profession that clinical instruction is not to be given upon a subject concerning which there is such a woeful lack of knowledge on the part of the profession, this lack of knowledge being due to utter impossibility of securing instruction during the course of college instruction which every student is obliged to take. Let us not forget, however, that the members of the House are not instructed in the essential facts of this controversy and that a campaign of education will have to be undertaken to eradicate mistaken notions concerning this matter. Let each member constitute himself a committee of one to explain the benefits of the clinics held at the state institution and hope for more favorable action at some future time.

In conclusion we give the following letter from Dr. Podstata as probably better explaining the merits of this particular matter than any statement that could be given by any one else:

ELGIN, Feb. 20, 1907.

Editor Illinois Medical Journal, Springfield, Ill.

Dear Doctor:—The matter of clinics and the recent resolution presented to the Illinois Legislature has considerably surprised me, and even now I confess that I am totally unable to see any genuine ground for complaint, but rather would have expected an appreciation of what has been done. The facts regarding this matter are as follows:

1. The two clinics held last December and referred to in the resolution of Mr. Shurtleff are neither the first nor the only ones held at this institution or in the state institutions in Illinois. My predecessor in office, Dr. Whitman, has held clinics at this institution and permitted other teachers of mental diseases to hold clinics here for several years past. I am reasonably certain that even previous to his administration such clinics were held at Elgin. It is personally known to me that similar clinics were held for years past at Kankakee and at the Cook County Hospital for Insane at Dunning.

2. The two clinics referred to in the resolution were held for purely neurological and mental cases. There was no other examination except mental and neurological. The patients were in no way exposed. They were simply questioned. In most cases the patients were very anxious and ready to tell their own story, inasmuch as they were glad to have the opportunity to demonstrate to other physicians their supposed sanity and the fact that they were unjustly detained here.

3. The clinics throughout were conducted in a serious and dignified manner, there being no "entertainment" in the usual sense of that word. No patient was forced to attend the clinic, and I can personally testify to the fact that no one appeared in the least worse for the experience.

4. If any one wishes to be genuinely humane by preventing exposure and humiliation of the poor insane patients, let them stop the semi-weekly public exhibitions of the insane to the curious public, whose visits are absolutely of no value to any one and are of great detriment to the patients as well as to the visitors themselves. I realize, of course, that there are many exceptions and that many very worthy people come to visit the state institutions in order to become better acquainted with the methods of management, and such people should rather be encouraged to come than otherwise.

I assure you that in the matter of these clinics my views are absolutely fixed, because of my personal knowledge of the good which they produce and of their absolute harmlessness to the patients.

Very truly yours,

V. H. PODSTATÁ, Superintendent.

THE PROPER TREATMENT AND CARE OF THE EPILEPTIC.*

HUGH T. PATRICK, M.D.

CHICAGO.

Mr. President, Ladies and Gentlemen:—To every physician come tasks beyond his powers. Often he is asked to cure when palliation alone is possible and in the end he can only stand helpless while Death claims his own. To these and other futilities I am no stranger, but I assure you I have never felt my insufficiency more than I do at this moment. Adequately to convey to your minds and hearts and consciences the great problem of the epileptic is entirely beyond my capacity. Even to express a tithe of my own feelings and convictions is quite impossible. My only consolation is that no one could possibly do the subject justice. No language yet devised can fully express the cumulative horrors of epilepsy, the dreary, soul-killing trials of the epileptic and the centuries of human effort against the disease.

A faint realization of the whole terrible business comes only after seeing one victim and then another, and then another and another, and then a score, a hundred, five hundred; only after hearing one tale and another and still another and on until the rehearsals seem an interminable dirge; only after seeing time and again the battle fought and lost and fought again and again lost and ever lost until grim despair or feeble apathy alone remains; only after again and again and again listening to the anxious questions of fathers, the tearful pleadings of mothers and looking into the wistful faces of little children; only after learning by heart the story of hopes shattered, plans frustrated, ambition abandoned, friendship cooled; only after watching over and over the physical, mental and moral degradation of fellow-humans until death brings a kind release; only after all of this and more, can one have any idea of what epilepsy is and what it does to us. If the decision as to the treatment and care of our epileptics rested alone with the experienced, no argument, no pleading, would be needed. Those who know are a unit. Every state long ago would have had its wholesome, happy, health-giving colony.

We have just been told of the great number of epileptics in this state, probably 7,000 or 8,000; about 1,200 in asylums and poor houses. Now I wish to ask three pertinent questions about these 7,000 epileptics: 1. What is their condition? 2. What is being done for them? 3. What can be done for them? To answer these three questions fully and well would require many men and several volumes, but I welcome your invitation to give a twenty-minute outline of what the answers may be like.

1. *What is their present condition?* A very, very few with ample means and every advantage are well cared for; as well as possible. These fortunates constitute a portion grievously small, a quite negligible quantity. A great many of the 1,200 in asylums and poor houses are hopelessly insane or demented and need only kindness and custodial care. For them little can be done. They must remain an eyesore of Nature, a blot upon humanity and society. About 5 per cent. are cured by medical

* Address before the Eleventh Annual Illinois Conference of Charities, Oct. 11, 1906.

treatment and more, a very indefinite number, if not cured, are relieved to such an extent that the disease constitutes no real disability. This still leaves 5,000 or thereabout to be dealt with; and what of these? Innocent victims of a dread disease, they are daily suffering the tortures of the damned. I mean what I say. To the confirmed epileptic are denied all the rights of man except mere life. Liberty he has none. At every step he is hemmed in, shoved back, bound down by his peculiar malady. The pursuit of happiness is not for him. Think for a moment of the things that make life sweet for you and me. The right to love and the exercise of this right; the privilege of activity, of accomplishing something, of doing a piece of work well; the joy of sowing and tending the crop and reaping the harvest; the stimulus of ambition, the pleasure of anticipation, the planning of the future; add to this the world of human associations with its wonderful metabolism of ideas and emotions, the soul chemistry of the social cosmos, and we have about all there is in this life—except only two elements. But all the mentioned rights and blessings are denied the epileptic. Try, if you can, to conceive of your own lot with these left out. What a dreary blank life would be. But two strands would be left to bind you to heaven and earth: religious faith and the devotion of family and friends. These the epileptic may have. But even the devotion of family is embittered by the knowledge that he is a burden, a care, a sorrow. His very presence stamps misfortune upon consciousness. Every moment his associates are anticipating the seizure and they are never free from the feeling that he is a pathological pariah. And he knows it. That is the bitterness of it. He has neither the callousness of the criminal nor the psychic oblivion of the insane, but is acutely conscious of his own condition and the suffering he innocently causes others. The more devoted the friends, the more he knows they suffer.

To attempt to underestimate the comfort and sustaining power of religious belief were as foolish as it is far from my wish, but there is no denying the fact that the normal individual of to-day wants and needs more in life than faith. I ask you again soberly and seriously to attempt to put yourself, only for a moment, in the epileptic's place. Imagine no profession, no business, no position of trust, no real occupation; no normal social intercourse, no steady purpose, no aim but to escape observation and to be let alone; no normal recreation, never any real fun; finally, no home of your own, no wife, no husband, no children—but the normal capacity to appreciate and enjoy all of these blessings and the normal longing for them.

We all have had, I presume, at one time or another, a frightful nightmare of falling, falling into some terrible abyss; or of feebly, impotently fighting a perfectly hopeless fight; or of vainly straining to flee from some relentless monster—until a troubled awakening brought grateful relief. What must it be to *live*, to constantly live the waking nightmare and only occasionally have a good dream of freedom and happiness and peace—to waken then to the hopeless battle and the hopeless flight! Before passing to the second question I must at least notice two or three other

important elements in the present condition of the epileptic. These are (a) danger to himself, (b) danger to associates and (c) danger and cost, directly and indirectly, to the commonwealth.

Briefly enumerated, the dangers of epilepsy to the epileptic are injury or death in a seizure; other diseases directly induced by epilepsy; criminal acts committed in the state of mental disorder frequently following or taking the place of a fit; mental weakness; moral deterioration; vagabondage or deliberate crime favored by the idleness, social isolation and lack of responsibility of the epileptic at large. The dangers to friends and associates are scarcely to be separated from the foregoing, but there is the specific danger of violence on the part of the epileptic. Every year a certain number of murders and murderous assaults are committed by epileptics. It is well known that these sick people in or immediately after their seizures are prone to the most furious violence for which they are in no wise responsible. Then the danger to the health and longevity of the near relatives of an epileptic is not to be computed. The wear and tear of apprehension, grief and despair can not be expressed in set terms. The pathology of sleepless nights and anxious days can not be counted like the pulse nor, like fever, be measured by the thermometer; nor can it be stained and seen through the microscope like bacteria, but it is a real pathology and eats up life none the less.

Danger to the commonwealth is, in many respects, identical with the dangers to family and friends. Crime, idleness and moral degeneration of a citizen are dangers to the state. Marriage and propagation of confirmed epileptics are a special danger. The ultimate cost to the state of epileptics at large can not be estimated, but it is enormous. Thousands of idle persons constitute a great load for some one to carry. Thousands of sick persons mean an enormous sum in doctors' bills and medicines and nursing. The time of thousands of well persons is encroached upon by epileptics, time that otherwise would be profitably employed. One hard fought murder trial costs enough to pay for the public care of 100 epileptics for a year. What the public ultimately pays for the fearful strain on fathers, mothers, sisters and brothers can not even be guessed.

2. *What is being done for them?* What, indeed! Naturally one asks, What are physicians doing? What is modern science doing for epilepsy and epileptics? I can only answer that we are striving. All over the world in hospitals, asylums, laboratories, and private practice medical men are unselfishly devoting their time and talents to the investigation of the disease and efforts to relieve the sufferers. But after all is said and done, the medical treatment of epilepsy remains sorrowfully futile. Probably not more than 5 per cent. of the patients are permanently cured and a majority of the remainder go gradually on from bad to worse, through invalidism and disability, to a kindly death. The causes of this great medical failure lie in technical details not germane to this paper, but I may mention two difficulties: the first is the inherent difficulty of the disease; the second, the impossibility of having all of our directions carefully and continuously carried out. It seems almost impossible to convince patient and friends of the importance of a hundred de-

tails of living; of eating, sleeping and exercise; of alcohol, tobacco and sweetmeats; of fresh air, work and play. And even when they are convinced of the wisdom of the advice it is absolutely impossible to get them to carry it out.

I had thought to relate some of my own failures; to describe some of the battles that patient and friends and I, shoulder to shoulder, have tried to win but lost. It seems quite unnecessary. Any one of your doctor friends will tell you the same tale: how he has tried to keep the child in school, the student in college, the young man in his position; how he has striven to preserve the head of a family and save a mother for her children, and how he has failed and tried and failed again. Is it any wonder, then, that the poor patient finally becomes the pitiful dupe of the seductive vendor of nostrums; the double victim of an implacable disease and a conscienceless charlatan? The desperate patient can not be blamed for catching at an elusive straw, but a merciless hades contains no recess too hot for the abandoned miscreant who trades on the credulity of misfortune.

To sum up, then, the answer to our second question, we may say that patients, friends and physicians are doing the very best they can, but are accomplishing relatively little, and that the state is doing nothing. Do not misunderstand me. Don't think I mean that medical treatment is useless or that every case is hopeless. On the contrary, there are few cases, indeed, which can not be helped, and some can be entirely cured. For an epileptic and his friends to give up hope simply because he has epilepsy is absolutely wrong. As I have said, some are cured and more, though having an occasional seizure, continue to be happy, useful and long-lived citizens. And it is a well-known fact that sometimes what seem to be the worst and most unpromising cases yield the most kindly to treatment.

3. *What can be done?* We can protect the community from the numerous calamities arising from epilepsy and, to a great extent, we can protect the patient from his disease. We can save the commonwealth millions of dollars and save each year for a normal and productive activity hundreds of thousands of hours now spent by anxious friends in watching and nursing their epileptic dependents. And to save many people from manifold cares and sorrows is public economy as well as obvious duty. What more can we do? We can protect the state against propagation by confirmed and hereditary epileptics, which would mean not only fewer epileptics in the future, but fewer criminals, fewer degenerates, fewer persons on the public charge. And then what can not we do for the epileptic himself! We can give him occupation and something to strive for. We can give him associates, associations and recreation. We can give him vastly better health, radically cure some of him, and eliminate the feeling that he is an outcast, something apart—to be looked at askance.

And how can we do all of these things? By having a liberally conceived, properly founded, well organized, scientifically conducted state colony for epileptics. Perhaps it might be well just to indicate what is

meant by liberally conceived, properly founded, well organized and scientifically conducted. Such an institution should be conceived as no temporary expedient, but as a monument to endure as long as epilepsy exists; conceived to meet requirements of the disease and of the patients in the fullest and best sense. In its conception we should see the germ of development and the possibility of embodying in our colony all the best known features of such a place. Practically, this means, first of all, a large tract of well-watered land with good drainage. Less than one acre per patient should not be thought of (two would be better), and the land should be diversified so as naturally to allow a diversity of products and industries. Our colony should be conceived as a rural village of largely agricultural population, but with all modern improvements and industrial possibilities. By a proper foundation I mean one devoid of embarrassing conditions, personal or political: a foundation in pure motives and high ideals.

A well-organized colony is one organized not for custodial care, not for the mere herding together of a couple of thousand sick unfortunates, but one organized so that it may be and must be scientifically conducted, in the highest sense of the word. And a scientifically conducted colony is one which will cure the greatest attainable number and develop the best possible physical, mental and moral state of the inmates; which will give them a real home, stimulating associations, satisfactory occupation, wholesome pleasures; which will give them the opportunity to teach and be taught, to strive and accomplish. Naturally, a scientific colony is absolutely divorced from political party, is run only for the public good and regardless of personal emoluments. Quite as naturally, it serves as a focus for the observation and investigation of epilepsy: a center where may be accumulated and whence may be promulgated knowledge of the disease—knowledge sorely needed; knowledge of its causes, its nature, its prevention; its symptoms, course, treatment and cure; knowledge which eventually will rid us of this monster which respects neither age, sex nor condition, and now holds in its foul embrace more than *two millions* of our brothers and sisters on this fair earth.

It is just possible that some one still may say—this sounds very well, but it is a fairy tale, a dream, a vision, at most it is transcendentalism and has nothing to do with statecraft or practical philanthropy. For such a one the answer is that actual demonstration has superseded theory. Founding a colony for epileptics no longer has the uncertainty and merit of pioneering. It is no bold venture of constructive statesmanship. We have but to imitate, and to the shame of Illinois be it said that we have been disgracefully slow in following good example. France opened the way in 1846, Germany followed in 1867 and England in 1888. Ohio led the states in 1890, but New York has eclipsed all with her splendid colony started in 1891. Since then Massachusetts, New Jersey, Pennsylvania and Texas have taken up the good work, but our state of rich prairies and manifold industries, of fine schools and great universities; our

great state of wealth and brain and brawn is still a laggard, a recreant to her trust. Our predecessors have not only shown the feasibility of the colony plan, but have worked out many details as well. To-day to decide concerning all the essential features of a colony is as simple as it is to ascertain whether wood or steel is the better material for car rails. Furthermore, they have shown that the patients want such an institution and that the public appreciates it. The waiting list of every colony is a long and impatient one, and a colony once started has never yet been abandoned, has never yet lacked the hearty, liberal support of its community.

I might take time to answer some of the objections which have been made, objections which still occur to those beginning to consider the subject. It is unnecessary. Demonstration has superseded argument, facts have supplanted theories. The epileptic colony is. It is a success. It has been shown to be a great public economy, the fruit of good statesmanship. Before a great while every state in the Union will have its colony or colonies. We may not be a leader, we are too late. But we need not be a straggler in the extreme rear. Now is the time to act.

Just one final comment, and then I shall have finished. It may by some be thought to be an unkindness to put so many epileptics together. One might think that an epileptic would suffer from the mere fact of being in an institution for epileptics; that it would be horrible for him to see others in seizures such as he has himself. Now quite the reverse is the case. Every asylum physician knows that the epileptic patients naturally gravitate together. Very frequently two become special chums, inseparables. When one has a seizure it is his fellow sufferers who promptly and naturally go to his assistance and minister to his needs. At first thought it seems odd that an epileptic should be less shocked and distressed by the convulsion of another patient than is a normal person. On further consideration it is seen to be the natural and logical state of affairs, especially in a colony. To be an epileptic in such a colony is no more strange or abnormal than to be an Eskimo in an arctic village. If we were all epileptics, to have a fit would be as natural as to laugh or to weep and would occasion no more comment. But in this question as in so many matters pertaining to the colony plan, experience has removed doubt. For instance, when I visited the great Bielefeld colony some years ago I noticed several stretchers standing in the vestibule of their church. On inquiry I learned that they were for the purpose of removing such patients as had seizures during service. And I further learned that an epileptic attack in that congregation occasioned no more comment, distracted no more attention than does the normal sleepy nod in the normal congregation of the normal community.

In conclusion, then, there is no single valid objection to a state colony for epileptics, while good statesmanship, good citizenship, public policy and private duty, the love of God and the brotherhood of man all point to it as the best solution of the desperate problem of the epileptic.

THE DUNNING TUBERCULOSIS CAMP.

LENORA AUSTIN HAMLIN.

CHICAGO.

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Norwood Camp-Sanatorium is located on the grounds of the Dunning Institution, in Norwood Township, just across the city line. The Chicago Tuberculosis Institute is indebted to the Board of County Commissioners for the use of the grounds and to the officials of the Institution for many minor courtesies. The camp has no official connection with the Dunning Institution. It was equipped by the Institute, is under the medical direction of the Institute, and, exclusive of the moneys paid in by the patients themselves and certain contributions made by various charitable organizations and individuals toward the maintenance of particular patients, it is supported by the Institute. The camp was opened September 3 and has now been running two months. For reasons of expediency, only women and girls are received. Fifteen patients have been enrolled since the opening, twelve of whom are now in residence. The patients range in age from 16 to 36 years. Six are mothers with families of young children, four of them with infants now left temporarily in the care of other members of the family. Five of the patients are young girls. One patient is a stenographer, one a fur worker, one a telephone operator, five have worked in the sewing trades, and one is a school girl. Of the three patients who were enrolled, but who are not now with us, one, after making a 10-pound gain in weight in less than five weeks and a corresponding improvement in pulse, respiration and temperature, went to the Jewish Tuberculosis Hospital in Denver, entrance to which had been arranged before she came to us. One left at the close of a week for personal reasons. The third, an Italian woman deserted by her husband, and with four young children, insisted on returning to them, and was recently discovered filling dates with nuts in a candy factory.

Eight patients have no tuberculosis history in the family so far as can be ascertained. Seven have lost one or more members of the family by this disease. All the cases are pulmonary cases in the early stages, no advanced cases being received. Of the twelve now in residence, ten are first-stage patients, two are moderately advanced. All, without exception, have gained in weight, the gain ranging from two and a half to thirty pounds. All have improved in a marked degree in temperature, pulse and respiration. The highest gain in weight has been made by one of the moderately advanced patients. Rest, nourishing food, twenty-four hours a day in the open air, and the most conscientious and painstaking attention on the part of the medical staff are the secrets of the camp's success.

The equipment of the Institute's camp sanatorium is of the simplest. It consists of four portable houses with porches, three tents and a large khaki shade tent. One of the houses serves as a dormitory for the patients, one is for the nurses' house, one the administration house, and the fourth is the kitchen and the patients' dining room. The tents are used for storage and sleeping quarters for the help. The porches are boarded in two and a half feet above the floor, and are fitted with khaki curtains,

adjustable either as awnings or as tight curtains, in case of driving storm. The beds are single hospital beds, with 30-pound cotton mattresses, and are supplied with plenty of bedding. For cold weather they are incased in a neatly fitted khaki covering, which passes under the spring and is hooked over the patient's body, thus keeping the bed clothing secure and affording protection from wind and wet. For day use each patient is provided with a reclining chair with foot rest, and a blue-stone horse blanket for protection against the cold. A bath room adjoins the dormitory.

Treatment.—The food is plain, bountiful and of the best quality, well cooked and tastefully served. Besides the three regular meals, three lunches of milk and raw eggs are served, one in the middle of the morning, one in the middle of the afternoon and one at bedtime. The patients are now averaging three quarts of milk and one dozen eggs each a day, in addition to their cooked meals. Some are also taking raw beef juice on prescription of the physician. Temperatures are taken four times a day, weights twice a week or oftener. At this time of year the



patients rise at 7 a. m. and retire at 8:30 p. m. Paper napkins and paper bags are used as sputum receptacles. They are immediately burned. The bed clothing is disinfected at frequent intervals with formaldehyd in a closet built for the purpose.

Service.—Dr. Theodore B. Sachs and Dr. Ethan A. Gray, both members of the Institute, generously contribute their services to the good of the cause and divide the medical service between them, each assuming responsibility for half the patients. Each is nominally in attendance at the camp two mornings a week. As a matter of fact, they are there much oftener. Candidates for admission to the camp are examined and admitted on the recommendation of one of these physicians. The camp staff includes, in addition, a trained nurse, a practical nurse assistant, who acts as a sort of sanitary housekeeper, a cook, a man of all work, and a laundress one or more days a week. Drs. Frank Billings, Henry B. Favill, Robert H. Babcock, W. A. Evans, John A. Robison, Charles L. Mix, Arnold C. Klebs, L. Hektoen, and N. S. Davis constitute the Advisory Medical Staff. The camp was equipped and the supplies are purchased by the superintendent of the Institute.

Cost of Equipment and Maintenance.—The original cost of equip-

ment was about \$2,500.00. The major part of this amount was raised by the Women's Auxiliary Committee of the Institute, of which Mrs. Arthur Aldis is chairman. The cost of maintenance per week per patient, with the present number in residence, is about \$10.00. With the present service and a slight additional equipment, the number of patients could be increased to twenty, which would probably somewhat reduce the cost *per capita*. The running expenses of the camp are met in various ways. The patients themselves pay what they can, no patients at present paying more than \$5.00 per week. When patients are unable to pay and have no relatives to pay for them, the Institute undertakes to interest some person or organization in their behalf. The Chicago Relief and Aid Society, the Chicago Bureau of Charities, the United Hebrew Charities, and the Jewish Consumptives' Relief Society are among the organizations coöperating with the Institute in the support of patients. A few charitably inclined persons are also contributing to the support of patients. So far about one-half the running expense has been covered in this manner, leaving the Institute to finance the other half in other ways. Every



effort is made to keep all appearance of charity out of the administration. The patients at the Institute's camp are in no common sense objects of charity, except as to the terrible disease to which they have fallen a prey is common. All who are old enough to do so were earning their living before this disease overtook them, and will be self-supporting again as soon as their physical condition will permit. The Institute is simply assisting them back to health as one would help a sister of one's own blood who might be caught in similar plight.

Tuberculosis bears harder on the poor than any other prevalent disease on account of the length of the illness. Two or three cases of tuberculosis are often sufficient to reduce a thrifty family to absolute want. When the victim is the bread winner, one case frequently does it. The savings of years are eaten up, the home is mortgaged and lost, the children are taken from school and put to work. It is no shame for a family or an individual to receive help in such a case. To be allowed to give it must not be counted a burden, but an opportunity. When one remembers that it is the community and not the individual which is chiefly to blame for the propagation and dissemination of this disease through insanitary

tenements, close, overheated school rooms, filthy and ill-ventilated cars, dust-laden and infected factories and work shops, dirty streets and contaminated air, one wonders when the community which tolerates such conditions will be compelled to assume the responsibility for the results.

But it must not be forgotten that society inevitably pays the cost in the end. In the case of tuberculosis, it pays it in loss of life and working power of people in the prime of life, just at the time when they are most valuable to themselves, their families, and to the community in which they live. Ten millions of dollars is a low estimate of the economic loss to the city of Chicago traceable to this disease in a single year, to say nothing of the grief and suffering entailed. With more than four thousand deaths from tuberculosis last year and an approximate tuberculous population of twelve thousand, is it not time for the city of Chicago to sit up and take some intelligent interest in a matter which affects so vitally its own welfare and prosperity?

The Chicago Tuberculosis Institute is attacking the problem at both ends through lectures, exhibitions, publications and the visible object lesson afforded by its camp sanatorium at Dunning. It is spreading the gospel of fresh air, nourishing food, cleanliness and rest. To the limit of its means it is providing these necessities. It is saving a dozen or more lives by a few months' work and the expenditure of a few hundreds of dollars. Indirectly it is influencing a great many other people to save their own. A dozen or fifteen lives valued at the meager \$5,000.00 legal rate for death damages which prevails in some states foots up to \$60,000 or \$75,000.

When a business enterprise offers a handsome return, people compete for the opportunity of investing in it. What may be said of an enterprise which returns fathers and mothers to their families, young men and women to the working force of the community, and which aids directly in abating the conditions which have reduced them to helplessness? Such is the nature of the investment the Chicago Tuberculosis Institute offers to the people of Chicago.

FACTS AND FALLACIES CONCERNING INTERSTATE RECIPROCITY IN MEDICAL LICENSES.

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The fallacies concerning interstate reciprocity in medical licenses arise from the very general misconception or lack of understanding of the facts and conditions governing medical licensure. The forms of reciprocity advocated by many physicians would, if enforced, result in the nullification of the provisions of the medical practice acts of many states. These laws have been scoured, in the majority of instances, through the efforts of the physicians of the several states, who would naturally be loath to see their labors set at naught.

The chief fallacy in interstate reciprocity, however—and one can hardly read a medical journal of the present day without being impressed

how general this misconception is among medical men—is due to a lack of knowledge of the powers conferred upon the states—or, rather, retained by the states—and amply recognized by the preamble to the constitution of the United States.

That each state has power to regulate, by general laws, the practice of medicine within its jurisdiction has frequently been affirmed by the court of last resort, the Supreme Court of the United States, which, in unequivocal terms, has declared that the right to practice medicine is not a privilege or immunity guaranteed to citizens of the United States under the Fourteenth Amendment to the Constitution. Yet, notwithstanding this—notwithstanding the positive declaration of Mr. Justice Field in the case of *Bartmeyer vs. Iowa* (18 Wall, 129), that no one, to his knowledge, pretends that the Fourteenth Amendment to the Constitution interfered in any respect with the police power of a state—we have presented to us, almost daily, by physicians who are presumed to have given the matter much thought and study, proposed legislation, which, if enacted, would abrogate the police power of the state and which could not be enacted without material amendment to the Federal Constitution.

Why this should be it is difficult to say. No one expects the busy practitioner, whose time and attention are absorbed by the professional exactions upon him, to be conversant with the intricate problems affecting interstate reciprocity. He naturally looks to the board of registration or examination of his state whenever he desires information on the subject—which is seldom. We do, however, look to those who attempt to speak, *ex cathedra*, in the matter, to possess at least a fair knowledge of the fundamental principles of the Constitution of the United States and the incontestable powers of the state.

I have referred to the police powers of the state—the power under which a state regulates the practice of medicine. In the language of the Supreme Court of the United States, in the case of *Dent vs. West Virginia* (129 U. S., 114), “it is in the power of a state to provide for the general welfare of its people, and authorizes it to prescribe all such regulations as in its judgment will secure or tend to secure them against the consequences of ignorance and incapacity, as well as deception and fraud.”

In regard to this same power, Mr. Justice Brown, in the case of *Lawton vs. Steele* (152 U. S., 136), says: “The extent and limits of what is known as the police power have been fruitful subject of discussion in the Appellate Courts of nearly every state in the Union. It is universally conceded to include everything essential to the public safety, health and morals.”

Mr. Justice Harlan, in a more recent case—*Jacobsen vs. Massachusetts* (25 S. C. R., 358)—speaks still more decidedly concerning the police power of a state, which he terms “a power which the state did not surrender when becoming a member of the Union under the Constitution.” He further says: “Although this court has refrained from any attempt to define the limits of that power, yet it has distinctly recognized the authority of a state to enact health laws of every description; indeed,

all laws that relate to matters completely within its territory, and which do not by their necessary operation affect the people of other states. According to settled principles, the police power of the state must be held to embrace, at least, such reasonable regulations established directly by legislative enactment as will protect the public health and the public safety."

The Supreme Court of Illinois has had much to say concerning the extent of the police power of the state. In the case of *Lakeview vs. Rosehill Cemetery* (70 Ill., 191), the court held that "the police power of the state is co-extensive with self-protection, and is not inaptly termed 'the law of overruling necessity.'" Speaking further of this power, the court said: "It is the inherent and plenary power in the state which enables it to prohibit all things hurtful to the comfort, safety and welfare of society. It may be exercised to control the use of property or corporations as well as of private individuals." The State Supreme Court has also held at different times that "all rights, whether to things tangible or intangible, are subject to the general police power of the state."

Further upholding the police powers of the state, the Illinois Supreme Court said, in the case of *Booth vs. People* (186 Ill., 48), "the law of the land may expressly prohibit and make criminal the doing of an act which, in the absence of such law of the land, would constitute a liberty or property right within the meaning of the constitution, even though such act be not within itself immoral." In the case of *Williams vs. People* (121 Ill., 84) the Supreme Court said regarding the police power: "It is the common exercise of legislative power to prescribe regulations for securing the admission of qualified persons to professions and callings demanding special skill; and nowhere is this undoubtedly valid exercise of the police power of the state more wise and salutary nor more imperiously called for than in the case of the practice of medicine. It concerns the preservation of the lives and health of the people."

To return to interstate reciprocity—although we have not yet departed from this subject, for all laws providing for reciprocity must be based on the acts to regulate the practice of medicine in the state, and these acts are directly dependent upon the police power of the state—it may be well to devote a little attention to the proposed legislation referred to in a previous paragraph.

In January, 1906, the *New York Medical Journal* offered a prize for the best essay on Interstate Reciprocity in Licenses. Several physicians entered the contest, and among them may be especially noted Dr. S. A. Knopf, of New York, a world-renowned authority on the treatment of tuberculosis. Dr. Knopf, however, did not compete for the prize. Of the several essayists, ten offered the following propositions in the order named. To these I wish to call particular attention. They were as follows:

- (1) The creation of a National Board of Examiners, acting under laws passed by Congress.
- (2) The creation, by the Federal government, of a Department of

Medical Affairs, the passing of whose examination would entitle the physician to practice anywhere in the United States.

(3) A comprehensive set of national government examinations.

(4) A voluntary Board of National Examiners, the licenses of which would be accepted in the several states.

(5) The appointment, by the President of the United States, of Examiners at Large, who would hold examinations in the Capitol of each state or territory.

(6) The national control of all questions pertaining to the examining and licensing of all physicians.

(7) A National Board of Examiners under the Federal law.

(8) A central board at Washington, which should prepare examination questions for the several state boards and afterward grade the answers.

(9) A Board of Medical Examiners created by acts of Congress.

(10) And, last, the creation of a National Examining Commission, to be appointed by the American Medical Association, this board to prepare the questions for examination and send them to each state board, which would have the power to grade them, the commission, however, to be empowered to appoint one or other members in each state to see that the examinations were properly conducted.

Assuming that it was the intention of the essayists to offer a practical solution of the reciprocity problem, I leave it to your judgment to determine whether any one of the physicians above quoted has progressed far toward the accomplishment of his purpose.

The regulation of the practice of medicine comes within the police power of a state, a power of which sufficient has been said in previous paragraphs, and is in no wise subject to Federal control. To put it more plainly, the United States government has no more to do with the regulation of the practice of medicine in a state of the Union—a regulation which leaves the field open to all who possess the prescribed qualifications—than it has to do with the regulation of the form of services in the church in which the Illinois State Medical Society is now holding its meeting!

I have nowhere seen the actual conditions existing summed up more clearly, more concisely or more fairly than in an editorial in the *New York Medical Record* of March 31, 1900, reading as follows:

"It is natural for a physician duly licensed in another state to ask why the assumed privileges and immunities as a physician of that state do not protect him from the necessity of passing a further examination when he comes to New York to practice. A full comprehension of this question in all its bearings depends upon a proper understanding of the history of the United States. Before the several states adopted the Constitution of the United States, in 1789, each of these several states was a complete independent sovereign. When the Constitution was adopted, the national government was thereby created with certain powers, and those powers resulted from the surrender by the individual states of certain features of their own sovereignty. In order that the sovereignty

of the different states should not be altogether merged in that of the central government, the following amendment was added to the Constitution: "The powers not delegated to the United States by the Constitution, nor prohibited by it to the states, are reserved to the states respectively or to the people."

"It has thus resulted that the individual states were in no wise divested of their sovereignty by the adoption of the United States Constitution except so far as that instrument shows an express surrender of their sovereignty. In all other respects they have retained it. Every state, for example, has retained unimpaired its original power to make police regulations, included among which is the right to make laws concerning the regulation of the practice of medicine. This proposition has been fully determined by the Supreme Court of the United States, and the courts of the individual states have uniformly sustained the power of their states to pass legislation of this character."

And now let us consider for a moment something of the character of the solution of the problems of interstate reciprocity offered in this competition to which I have referred—offered in the face of the legal limitations which surround us in the selection of our remedies. It is of interest to state that the prize was awarded to one—Dr. William Warren Potter—who, in his solution, suggested no attempt to lodge the power of controlling medical practice or reciprocity in other hands than those of the state government—a fact which is significant of the solidness of his argument and incidentally indicative of his familiarity with the law. The members and officers of state boards competing in this contest in no instance recommended Federal control. They were apparently heartily in accord with the principles set forth by Judge Cooley in his work on torts as follows:

"No one has any right to practice law or medicine except under the regulations the state may prescribe. To practice in the courts or to practice medicine is not a privilege of citizenship, and is, therefore, neither given nor protected by or under the Civil Rights Act of Congress, or the new amendments to the Constitution. The privilege may be given to one citizen and denied to the other, and other discriminations equally as arbitrary may doubtless be established."

But even Dr. Potter, as clearly as he seems to have grasped the legal aspect of interstate reciprocity, fails to go as far as the facts would warrant. He is found to say: "One of the early suggestions was a national examining board, but this was abandoned very soon by the most careful observers, because it was apparent that the general government would not usurp the police power of the states for the purpose named." It would have been more in accordance with fact had Dr. Potter said that "the general government *could* not usurp the police powers of the state, and, parenthetically, would not if it could."

The solution suggested by Dr. S. A. Knopf deserves special consideration, coming, as it does, from one of such recognized authority on hygiene and preventive medicine.

Dr. Knopf advocates the creation of a national organization—a Fed-

eral Department of Public Affairs—which should be empowered as an examining and licensing body, and whose certificate should be accepted as authority to practice medicine and surgery in any state or territory of the Union. He admits that such an organization could not be created at once and recommends, in the meantime, a temporary medical board, voluntary of course, which shall perform the functions of a United States examining commission.

For reasons which have been set forth in detail, this scheme is entirely impracticable and impossible of execution at the present time. We are seeking the possible—not the impossible. No plan which contemplates the assumption of the control and regulation of medical practice by the Federal Government could become operative without amendment of the Constitution of the United States, and such an amendment could only be obtained by recommendation of two-thirds of the members of both houses of Congress or of the legislatures of two-thirds of the states of the Union, and upon such recommendation receiving the sanction and approval of the legislatures of three-fourths of all of the states. It is beyond the realm of possibility that the Federal Constitution—which has remained unchanged, even in the face of grave national problems, practically since the close of the Civil War, would be amended by the people so as to permit a physician licensed in one state to practice in another without a further examination; would be amended so as to deprive the several states of their police power—a power which the states would not surrender in 1789. We are now living in Utopia, and the millennium is not at hand.

Dr. Knopf states with approval the fact that in all European countries the medical examination entitles the successful candidate to practice throughout the entire nation and all provinces; that in Germany the man who has passed his examination before the Government Board has a right to practice in any of the several kingdoms or minor states. Not a great while ago I was favored with an expression of opinion of an eminent German physician who had been licensed to practice in the German Empire, that it might be better if these conditions did not exist in the Fatherland. He seemed convinced that if every minor kingdom, state or province had the power to say who should or should not practice within its confines the empire would be far freer from charlatanry and quackery. Fortunately for the physician, his opinions were expressed on this subject on this side of the Atlantic. Had they found utterance within the realms of the Kaiser, the physician might now be serving a sentence of ten or more years for *lese majeste*.

But it is not necessary that we should pattern our institutions or our practices after those of foreign nations, especially those in which a whispered criticism of the regulation of public affairs may subject the offender to imprisonment. "which may be for years and may be forever."

However, if it may seem advisable for us to determine the value of our standards by those of foreign countries, it is not necessary that we cross the seas to obtain statistics; we can procure information from

countries which are nearer at home and concerning which our information is more extensive and more reliable.

On our northern borders we find British possessions, consisting of the Dominion of Canada and the Island of Newfoundland. Each of the several provinces in this vast territory enacts its own medical laws. A license issued in one province does not entitle the holder to practice in another. A license issued in Great Britain is recognized in but a few of the provinces, and then only under special conditions. The Federal Government exercises no control over the provinces in the matter of medical legislation. While two or three of the provinces have entered into reciprocal relations, there is no general reciprocity between the provinces.

The proposition to create a National Examining Commission, to be appointed by the American Medical Association and to perform the duties described by one of the essayists, is so obviously absurd that consideration here would seem an unnecessary imposition upon your time and patience. However, it may be well to touch upon this subject for a moment, lest silence concerning it be misconstrued.

This proposed National Examining Commission bears a very close relationship to the Voluntary Board of Medical Examiners advocated with such enthusiasm but a few years ago, after it was realized—by some—that the attainment of the much discussed National Board of Medical Examiners was beyond the bounds of possibility.

It may be accepted without question that, if the various State Boards of Medical Examiners would delegate the powers conferred upon them by state law to any voluntary organization, that organization would be the American Medical Association, but it is exceedingly doubtful if there is a board that could if it would delegate its powers to any body which had not legal authority to perform its functions.

In this connection it may be noted that, in 1893, an effort was made to give to the Association of American Medical Colleges the right to determine those colleges which should be accepted as in good standing with the Illinois State Board of Health. This effort brought forth a vigorous remonstrance from the late Dr. N. S. Davis, a man who certainly would not be accused of disloyalty to the Association of American Medical Colleges. This remonstrance, which was addressed to a member of the Illinois State Board of Health, read as follows:

CHICAGO, Aug. 23, 1893.

Dear Sir:—Your letter relating to the Association of American Medical Colleges is at hand. The association named is a voluntary organization of such medical colleges as chose to appoint delegates and comply with its constitution and by-laws. It has no legal status or authority to fix a *standard* for any college not belonging to it. Consequently, it is absurd for the Illinois State Board, legally charged with the duty of determining what standard of requirements a medical college must have to entitle its diplomas to recognition, to attempt to delegate that duty to a number of voluntary college associations or societies, any one of which may change its rules every year. The action of the Illinois State Board, in adopting the rule you mention, was a ridiculous abandonment of the claim to regulate the education and practice of medicine in this state, persistently exercised during all its previous history. Yours truly,

N. S. DAVIS.

Due consideration certainly must be given to the views expressed by the venerable Nestor of the medical profession, Dr. N. S. Davis, the "Father of the American Medical Association," even by the most ardent advocate of national or voluntary organization control of state medical affairs.

So much for the common fallacies concerning interstate reciprocity—the fallacies in the midst of which we find many of the pertinent facts upon which a satisfactory adjustment of this subject must eventually be based.

To-day we hear much of reciprocity. A few years ago we heard little or nothing. In 1898 when a bill, of which the present medical law of Illinois was the outcome, was under consideration by the Illinois State Medical Society reciprocity was not even suggested. A physician to whom I mentioned this fact recently stated that the omission of reciprocity from the discussion was due to the fact that at that time a diploma admitted to practice in the majority of states in the Union. As a matter of fact, over one-half of the states and territories even then required an examination for admission to practice.

But while, as I have said, we now hear much of the advantages of a reciprocal relation with our sister states, the reciprocity discussed and advocated, at least in Illinois, is that applying to certificates issued after examination. No other form of reciprocity seems to possess much interest for the physicians of the state. This opinion is forced upon me after a perusal of voluminous correspondence on the subject in the offices of the State Board of Health. In fact, practically every communication received at the office of the board on the subject of reciprocity in the case of old practitioners comes from licentiates in other states or those who desire to remove to other states.

It was but a short time ago that I received a vigorous protest from a physician in central Illinois against the action of the State Board of Health in declining to license without examination a licentiate of an adjoining state who was licensed ten years ago upon presentation of his diploma. I have just ascertained that my correspondent desires to remove to the state in question. His protest was born entirely of his personal desires and his self-interest, and not of any sentiment for the elevation of the standards of medical practice or the betterment of the conditions of practice within the state.

The Illinois State Board of Health reciprocates, not under any specific authority of law, but under its general powers. Reciprocity, however, is impossible on any other basis than after examination, for the medical law of Illinois requires an examination.

Provision for obligatory examination has been sought for by the medical profession of Illinois for many years, in order that there might be brought about "the separation of the license from the degree," to use the apt expression of the Chairman of the Committee on Legislation of the State Medical Society in 1899.

The medical law on the statutes from 1887 to 1899 had no peer in the United States, as far as it went, but it did not go far enough, according

to the view unanimously expressed by the Illinois State Medical Society at different times. An examination was called for by the several thousand physicians of the state, who endorsed the medical bills of 1899 and 1903—which bills were also endorsed by the State Medical Society at the Galesburg (1898) and the Quincy (1902) meetings.

The present Medical Practice Act is, in fact, the result of the efforts of as large a representation of the medical profession of the state as can be aroused to activity for any work of advancement of medical education.

It owes its being primarily to the efforts made by the Illinois State Medical Society to elevate the standards in Illinois, between 1897 and 1899. A bill introduced in 1897 received but little consideration in the Legislature. At the 1898 meeting the State Society, by unanimous vote, unqualifiedly endorsed the bill presented. The chairman reported that he had found the profession almost unanimously in favor of its legislative enactment. This bill, so favorably and generally accepted, provided for the examination of all persons desiring to commence the practice of medicine in the state, but, as stated, contained no provisions for either immediate or ultimate reciprocity.

This bill was submitted by physicians who had given the matter exhaustive study and consideration—such men as Pettit, Brower, Graham, Hamilton, Moyer, J. B. Maxwell and others whom I might name. At the meeting at which this bill was presented for ratification by the State Society (1898) Dr. Harold N. Moyer read a paper on “Needed Medical Legislation in Illinois,” which seemed to represent the sentiment of the society’s members. He made a strong plea for the enactment of a bill along the lines suggested by the committee. He referred to the defects in the existing law and stated that the most serious errors in the control of medical practice were due to the recognition of diplomas and said that “legislation was called for which should at once eliminate the diploma as a basis of qualification and substitute a state examination.”

It is to be assumed that Dr. Moyer advocated an examination which should apply to all practitioners. If he contemplated the exemption of any physicians from such examinations, he failed to say so. In fact, he stated that the *raison d’être* of many schools was found in the fact that the diploma was equivalent to a license to practice. These statements, as I have said, seemed to bear the approval of the members of the State Society and of the medical profession in general and were the provisions which seemed to be regarded essential to a satisfactory medical practice act.

At the Quincy meeting of the State Medical Society in 1902—at a time when interstate reciprocity in medical licenses had become a much more common topic for agitation—the bill presented as improving the conditions of medical practice in the state made provision for reciprocity, but only in case of certificates issued by other boards after examination. This bill also was unanimously endorsed by the Illinois State Medical Society.

Reciprocity was also provided for in the medical practice bill introduced in the General Assembly of 1903 at the instance of the Committee

on Medical Legislation of the Illinois State Medical Society, but in a further section the proposed State Board of Medical Examiners was authorized to accept as equivalent of an examination, in part of the subjects required, satisfactory evidence of ten or more years of reputable practice of medicine since graduation. It is evident that those who framed this bill intended that the so-called "old practitioner," he who was licensed in other states merely on the presentation of a diploma, should qualify in Illinois, if he intended to practice therein, solely through the medium of an examination.

From the attitude which the Illinois State Medical Society and the medical profession of the state have taken toward the enactment of laws to regulate the practice of medicine in Illinois, it is to be fairly assumed that the sentiment is almost unanimous that no one shall be admitted to practice until he has demonstrated, by examination, his educational qualification and attainment, and it is but fair to presume that no form of reciprocity contemplated in later years should be based upon other than this general principle, and that its privileges should be extended only to those who had passed examinations and had met educational requirements practically equivalent to those exacted in our own state under the law in force.

The only protest against such a form of interstate reciprocity which deserved serious consideration was the protest from the older practitioners of medicine in other states, who, while in many instances unqualified to pass satisfactory examinations in the little-used elementary branches of medicine, are unquestionably thoroughly qualified for the practice of the profession. But protests of these older members of the profession have been considered and have been acted upon by the Illinois State Board of Health in a way which does not alter the general requirements, which does not violate the specific requirements of the statutes, and which has proven equally satisfactory to the state and to the old practitioner. By a resolution passed by the Illinois State Board of Health at its meeting in October, 1904, the old practitioners of other states are allowed a credit of 5 per cent. on the required 75 per cent. of successful answers for each five years they have been in active practice.

The New York *Medical Journal*, in commenting upon this action by the Illinois State Board of Health, voices the general approval with which the resolution has been received, saying editorially:

"The Illinois State Board of Health, one of our most progressive sanitary bodies, has lately adopted a resolution that will materially aid the established practitioner, rusty though he may be as to his elementaries, to pass its examination for the license to practice. By the terms of the resolution, on and after Jan. 1, 1905, the board will accept as an equivalent of a part of the examination required 'satisfactory evidence of five or more years of reputable practice of medicine and surgery since graduation, and will allow a credit of 5 per cent. upon the required average of 75 per cent. for each period of five years of such practice on the part of a candidate for a certificate.' We hope that this move in the direction of justice will be followed by other state examining bodies."

The trend of opinion expressed by medical editors on what I may

term the "Illinois method of dealing with the old practitioner" indicates that its adoption has contributed materially to the right of the Illinois State Board of Health to the title so graciously conferred upon it by the editor of *American Medicine*—"the leader in practical reciprocity."

By the establishment of reciprocal relations with various states having practically equivalent requirements of preliminary education and examination, and by providing equitably for the older practitioners upon a sliding scale in constant relation to the years which have elapsed since medical college study, the State Board of Health seems to be carrying out what were certainly the wishes of the medical profession when our present laws were agitated—and that without working a hardship upon the only class which seems to have legitimate grounds for a plea for special consideration.

But it is frequently said that the methods of examination in Illinois now in operation do not meet with the approval of a large per cent. of the members of the medical profession of our state. To be sure, the statements to this effect are made almost solely by physicians of other states and by members of state boards who advocate reciprocity on the basis of diploma licensure; still as they have been, and are still being made, they call for attention and consideration.

If the law is unsatisfactory, then the law should be amended, and amended it can easily be if the medical profession of the state so will.

I can not believe that there is any considerable number who would advocate any deviation from the policy of examination of applicants. But, accepting examination as desirable for recent graduates, is it, as believed, the desire of the profession that we enforce the rule in the case of the older practitioner also?

Is it wiser that we should continue the examination of old practitioners from other states who desire to enter upon practice in Illinois, making ample allowance for their years of practice, as is done under the provision of the present law, or to secure an amendment to the law which will permit the State Board of Health to license, without examination, graduates of reputable institutions who possess the licenses of other states issued seven or more years ago?

As you are doubtless aware, a number of western states have adopted a qualification for reciprocity which provides that a certificate of registration issued by the proper board of any state may be accepted as evidence of qualification for reciprocal registration in any other state, provided the holder of such certificate has been engaged in the reputable practice of medicine in such state at least one year, that he was the possessor of a diploma issued by a medical college in good standing, and that the date of his diploma was prior to the legal requirement of the examination test in such state.

The Illinois State Board of Health has been urged to adopt this qualification, but has constantly declined to do so—first, because the law does not permit the licensing of physicians except after examination, and, second, because the members do not believe in the practicability of this form of reciprocity. The adoption of such a qualification would mean

that the Illinois State Board of Health would be compelled to license, without an examination, the holder of a diploma from a seemingly reputable medical college who obtained a license in any other state previous to 1899, on the presentation of a diploma, when the license was his for the asking.

It is significant that this provision has been urged upon the Illinois State Board of Health principally by physicians residing outside of the state, and would not be expected, if entirely free from selfish motives, to be so markedly solicitous regarding the welfare of the Illinois physicians. During the past five years, in which time this matter has been frequently agitated, the State Board of Health has not been asked to adopt this qualification by a dozen Illinois physicians. Those who urged this form of reciprocity in Illinois either had removed or were desirous of removing to other states. I have never heard a prominent practitioner of Illinois raise his voice in support of the qualification, although this form of reciprocity has been advocated constantly for five or more years past by the boards which have adopted it, and has been given wide publicity in *The Journal* of the American Medical Association and other periodicals.

If the members of the Illinois State Medical Society favor this form of reciprocity, the members of the Illinois State Board of Health wish to be advised of the fact in order that they may properly govern themselves. The reciprocity desired by the members of the medical profession of Illinois is the form of reciprocity which will be advocated and enforced, when possible, by the State Board of Health.

Intimately associated as I have been with physicians of the State of Illinois in their efforts to secure higher standards of medical education, I can not resist the conclusion that the vast majority do not desire any measure which will reduce or lower the Illinois requirements of medical practice.

As regards general interstate reciprocity, I am impressed that it may be obtained with an elevation rather than a lowering of standards and requirements, without the intervention of the Federal Government; without revision of the Constitution of the United States, and without very radical changes in the laws of the various states. In fact, it is my impression, from the progress already made in this direction, that the several states will sooner or later adjust themselves to the conditions necessary for the establishment of proper reciprocal relations without any material statutory changes. Those states which will require further legislation to permit interstate reciprocity in medical licenses are in the minority.

But when further legislation is called for the most important point is to secure practically uniform medical laws—laws which will give to the boards of the various states practically the same powers and practically the same limitations, and which will establish practically the same requirements of medical education, or authorize their several boards to do so. Absolute uniformity of medical practice laws is hardly within the range of possibility, nor is absolute uniformity in any way essential. With laws practically the same, there should be a provision in the statutes

making it obligatory upon boards to extend reciprocity to states which maintain the same standards for medical licensure. There are a few states in the east and west whose laws are such that reciprocity could be established by the action of their examining and licensing boards, and yet these boards arbitrarily refuse to consider reciprocity under any circumstances, even with those states having requirements superior to our own. Incidentally it is the arbitrary attitude of these few states which interferes more than any other factor with the attainment of the desired end, and the passage of reasonable rules by these states must be the first step toward the establishment of general interstate reciprocal relations. We may overlook the failure of a board to embrace so popular a measure as interstate reciprocity if the state laws prevent such action; but it is exceedingly difficult to palliate the attitude of the board empowered to act and yet which persistently refuses to take advantage of its power.

Each state could and should retain the right to accept or reject any individual applicant, as might be determined by moral character and the board's individual estimate of the good standing of the college from which he is graduated. Ample and fair provision should be made for the old practitioner, as is done in Illinois, and thus, in my belief, proper reciprocity can be secured without an entire reorganization and revolution of the medical practice laws of the states of the nation.

There is but little for me to say in conclusion. I am gratified to note that no exception has been taken by those present to the attitude of the Illinois State Board of Health in the matter of reciprocity. I am hopeful that those members of the State Society who are not present to-day will later favor the State Board of Health with their views on reciprocity, after reading the paper presented.

COUNTY AND DISTRICT SOCIETIES

CLARK COUNTY.

The Clark County Medical Society met in Dr. Pearce's office at 2:00 p. m. President Boland being absent, Vice-president Ryerson presided. Members present: Ryerson, Prewett, Duncair, Gould, Smith, Pearce, Burnside, Bradley and L. J. Weir. Dr. S. Weir of West Union was present as a visitor. Dr. Burnside reported a gunshot wound of neck, causing complete paralysis at once, below injury, died on thirteenth day, suddenly had trismus fourth day which continued to the end, antitoxin was used. Dr. Prewett reported case of nausea and vomiting for twenty days following filling of tooth, which was considered of nervous origin.

Dr. Burnside presented the paper of the evening on Catarrhal Pneumonia. All members participated in the discussion. Cases of grip, measles, whooping-cough and bad colds should always be under the watch and guidance of a physician and early treatment instituted in order to prevent, if possible, the development of the serious complication, catarrhal pneumonia. In the treatment, fresh air is a necessity, a window or two should be open, in the beginning a laxative or in robust patients a brisk cathartic is given with other eliminants, supportives and later stimulants are used.

Dr. S. W. Weir of West Union was elected a member, and Dr. Gould Smith, who has returned to the county, was reinstated to membership.

L. J. WEIR, *Secretary.*

COOK COUNTY.

CHICAGO MEDICAL SOCIETY.

Regular meeting was held Jan. 2, 1907, with the President, Dr. George W. Webster, in the chair. Dr. Carl Westman read a paper entitled "Gymnastics, with Demonstrations, in the Treatment of Spinal Curvature." The paper was discussed by Dr. John Lincoln Porter, and the discussion closed by the essayist. Dr. O. M. Steffenson read a paper entitled "A Study of One Thousand Cases of Ectopic Pregnancy Reported in the Medical Literature in the last Ten Years, with Special Reference to Diagnosis; Report of Some Personal Cases." Dr. Aime P. Heineck followed with a paper on "The Termination and Treatment of Extrauterine Pregnancy, with Report of Cases." The discussion on these two papers was opened by Dr. Carl Beck, and continued by Drs. Victor J. Baccus, William Fuller, Emil Beck, C. O. Young, A. Belcham Keyes, Geo. W. Webster, and the discussion closed by the essayists.

DISCUSSION ON DR. WESTMAN'S PAPER.

Dr. John Lincoln Porter:—We are indebted to Dr. Westman for his admirable demonstration of the gymnastic treatment of lateral curvature. I only regret that every member of the profession in Chicago, who is interested in the treatment of deformities, should not have listened to it, as well as the general practitioner. I would like to ask Dr. Westman, before I say anything further in discussion, how often and how long the exercises are given?

Dr. Westman:—They should be given preferably every day, and it takes from half an hour to three-quarters of an hour for each treatment, depending on the strength of the patient.

Dr. Porter:—It occurred to me, as I listened to the paper and saw the demonstrations, that by far the larger percentage of cases that come to us for treatment are those in which the patient not only has a bilateral curvature, but fixed

rotation. We all recognize the class of cases referred to as being susceptible of improvement, but in my experience of the past twelve years, it seems to me that in children between the ages of 10 and 15, the gymnastic treatment alone is not sufficient. I mean by that a treatment which lasts from twenty to forty minutes, which is about the usual time, is not sufficient to remind and compel that patient to maintain the best possible correction during the rest of the twenty-four hours. In other words, something else besides the gymnastic treatment adds to the efficiency. I know that is not the opinion of all orthopedic surgeons, nor of physicians like Dr. Westman, who devote their attention entirely to gymnastics and massage. Dr. Bernard Roth, of London, who sees more cases of scoliosis probably than any other man in the world, depends entirely upon the gymnastic treatment. Given a child of 10 or 15 years of age, who is playing, active, and going to school all the time, twenty to forty minutes daily of exercise will not keep his attention riveted all the time on his position, and for the rest of the twenty-four hours, when he is not asleep, he falls into the same vicious habit of sitting and standing. While I believe most thoroughly in the necessity and advantage of gymnastic treatment, I also believe it can be added to by some mechanical device which compels that patient to stand and sit in a straight position during the time he is not taking exercise.

The exercises which Dr. Westman has shown are, with a few exceptions, much like those all of us employ in the treatment of such cases; but I notice he does not accentuate the point which to me is very essential, and that is the maintenance, when the patient is not exercising, of the position of extension of the spine, and I mean by extension, backward bending. It has been clearly demonstrated in the past two or three years by Lovett by a series of anatomical and physiological experiments in Boston, that one of the chief mechanical effects in the production of rotatory lateral curvature is forward bending of the spine in the antero-lateral plane. By that I mean in a plane which is diagonal to the antero-posterior plane, for instance, bending forward and, at the same time, laterally. We all know that mechanically the spine is suspended with its long axis, not going down through the center of the vertebrae, but posterior to the center, and that the bodies of the vertebrae, the thicker part of the vertebrae, are in front of and do not surround the long axis, or in other words, the rotary axis. And when the spine is bent directly forward in an absolutely straight antero-posterior plane, the intervertebral cartilages are compressed, the posterior ligaments are stretched, and the spine is absolutely straight; but when the spine is bent laterally in the antero-lateral plane, the vertebrae must rotate one upon the other, because the smaller arc of the circle is toward the direction in which the spine bends, and the bodies cannot be accommodated in that arch, and therefore they must rotate toward the convexity of the curve. But backward bending of the spine, so-called extension, tends to prevent rotation and keeps the bodies of the vertebrae in the median line, so one of the chief aims of treatment is to maintain a little extension. Given a patient with a crooked pelvis or a short leg, or a patient who sits in such a position as to bend the spine laterally as well as forward, sooner or later rotation of the vertebrae occurs, and with it a lateral bend. One of the worst curvatures I ever saw was in a boy who pulled a rope in this way (indicating) all day, with the spine bent in the lateral plane. He had a terrible deformity. While these curves occur much less frequently in boys than in girls, the worst curves are apt to be in boys. Taking the subject as a whole, we usually have a more advanced condition to deal with than Dr. Westman has described. He has demonstrated here a single long curve, what we know as a simple curve, which we believe is but the beginning of a double curve. We see single curves in children as a preliminary development to a curvature to the other side.

It is unnecessary for me to go into a discussion of the various methods which we use. Some are in favor of one kind of device and some of another, and it is an old saying that every workman can do best with the tools he is most familiar with, and while one may prefer a leather corset made over a plaster mould of the corrected form, another one will place dependence upon a steel frame or steel

brace. I have succeeded in getting the best results with a light plaster-of-Paris corset. I begin treatment with gymnastics alone, and when the spine has been made as mobile as possible with gymnastics, then I put the patient into as straight a position as I can forcibly, but without pain by suspending the weight and correcting the position of the ribs as much as possible. Then I make on the patient's body a jacket which fits snugly, with nothing between the plaster and the skin but stockinet. When that is hard enough it is split in front like a corset, sprung off, and put together again, and allowed to dry twenty-four hours; then it is re-enforced with spring steel, finished up like a lacing jacket, and will retain its form from six weeks to two months. By that time I hope to have the patient improved enough so that he deserves another one. I find healthy children running around, playing all day long and forgetting all about their deformity, improve more under that treatment than they do under the exercises alone. But I must say, it is absolutely useless to put a jacket or brace or any kind of mechanical device onto a case of lateral curvature and depend upon that alone to help the patient, because it will not. Unless you add a course of treatment such as Dr. Westman has demonstrated to-night, your case will get worse instead of better. The patient will simply settle down into the support, and go on listlessly, depending upon the weight he carries around to correct the deformity, and it will never do it.

Dr. Westman (closing the discussion):—I only wish to say in closing that I do not wish to be understood as advocating gymnastic treatment alone, or as considering it sufficient, because I did not do so. My remarks were entirely directed toward the gymnastic treatment of the scoliosis.

ECTOPIC GESTATION, ITS TERMINATIONS AND TREATMENT—REPORT OF THIRTY-TWO CASES.

AIME PAUL HEINECK, M.D.

CHICAGO, ILL.

This condition occurs with greater frequency than the authors have led us to believe. Failure to diagnose the condition is responsible for its apparent rarity, and also for its morbidity and its mortality. Knowledge of the possible terminations of extrauterine pregnancy is necessary before an intelligent discussion of treatment is possible.

1. Gestation may go to full term and a viable child be delivered through channels created by the surgeon. But this termination is an exceptional occurrence. Most extrauterine infants live but a few days; many are deformed. Again, the operation necessary for their removal may cost the life of either mother or child, and often of both. An extrauterine pregnancy may end in the delivery of a viable child, in cases of ovarian as well as in cases of tubal pregnancy.

2. There may be full-term gestation with death and non-delivery of fetus.

3. Death of fetus may occur at any period, before or at term. The fetus advanced in development will not be absorbed. The degenerative changes in the fetus, which usually begin after its death, are a menace to the mother. The life of a woman who carries an encysted fetus is in constant peril. Degenerative changes may take the form of (a) putrefaction, (b) or infection, (c) the fetus may undergo cartilaginous transformation, (d) it may be converted into a fatty and friable substance and be known as an adipocere, or (e) into a lithopedion, (f) the fetus may become encysted. These fetal cysts may interfere mechanically with the development of a subsequent uterine pregnancy; may complicate delivery in a normal pregnancy; may also be a source of mechanical irritation of contiguous organs. After fetal death the liquor amni is absorbed; no more is secreted, and the cyst shrinks. Full term fetuses have been found in the abdominal cavity at autopsies and at the operating table. Nevertheless, the ova that develop to term or near term are clinical rarities.

The gestation sac should be regarded and treated as a fetal cyst after the death of the fetus. These fetal cysts frequently become adherent to neighboring organs, and ulcerating into them, discharge their contents partially or completely

in the bowel, in the vagina, in the urinary bladder, in the uterus, etc. Many cases are reported of fetal cysts opening into the rectum, and discharging their contents per ano. It has been known to become adherent to and later discharge its contents through the abdominal walls. There even may be several channels as in the case quoted of Fenwick, in which the sac, of several years' duration, contained a macerated fetus and had formed two fistulæ, one opening into the bowel and the other into the bladder. In Urbain's case a left tubal gestation sac was found to have ruptured into a cyst of the right ovary. Of tabulated cases reported by Parry, Mattei and Peuch, 89 have ruptured through the abdominal walls. Of this number, 15 died; 164 through the intestinal canal, with 47 deaths; 42 through the vagina, with 12 deaths; 34 through the bladder, with 10 deaths. Rupture is a frequent termination of all forms of ectopic gestation. This accident may occur before or after the death of the fetus. Primary rupture, usually, takes place between the third and the tenth week. In tubal pregnancies rupture occurs generally before the end of the fourth month.

Both primary and secondary gestation sacs are liable to rupture. The rupture is accompanied by hemorrhage of various forms and may be extratubal, intratubal, and intramural, or may show the characteristics of two or more of these varieties. Intramural rupture may be compared with the condition that obtains when a sacular aneurism becomes diffuse; in this form of rupture there is always a thin layer of tubal tissue separating the blood sac from the peritoneal cavity. Rupture may, or may not, cause the cessation of gestation. The loss of the amniotic liquid will almost invariably bring the gestation to an end. We have come in the literature across only one case of an extrauterine child in which, at the time of operation, no amniotic sac could be discovered. The earlier the rupture and the younger the ovum, the quicker will be the absorption of the latter. The very fully developed ovum will not be absorbed. It thus remains a source of danger and may cause death through the necrosis of the sac, and the vessels supplying; it may cause maternal death through any one of the many dangers to which it exposes its host.

If an extratubal sac ruptures into the peritoneal cavity and the ovum does not perish, the pregnancy will be continued as a tuboperitoneal or peritoneal pregnancy. Rupture of an extratubal sac may occur between the folds of the broad ligament. Here, too, gestation may continue and be known as an intraligamentary pregnancy or tubo-abdominal. Küstner, in a series of 107 operations for ectopic gestation, never once came across either a tuboabdominal or an intraligamentary pregnancy.

In intratubal rupture, an hematosalpinx may result from the accumulation of blood in the cavity of the tube, if the tubal abdominal opening be occluded. Or, the ovum may continue its development in the tube, and later a secondary rupture may occur, either into the peritoneal cavity or between the folds of the broad ligament, or in both. The ovum may be carried out of the tube by the hemorrhage. This is termed tubal abortion.

The thing to be dreaded in all cases of rupture is the hemorrhage. It may be appalling. It usually requires immediate surgical aid. Rupture may be due to hemorrhage between the chorion and tubal mucous membrane, to repeated small hemorrhages from the tubo-chorionic vessels into the gestation sac, over distending the latter. To the absence or feeble development of the decidua reflexa, to traumatism (even a very slight one may cause ovular rupture). The hemorrhage associated with the rupture of a tubal or ovarian gestation sac may prove fatal or lead to the formation of a pelvic hematoma.

It is the consensus of opinion that the trophoblasts are the cause of early rupture, and mechanical causes, such as undue violence in examinations, of late rupture. The trophoblasts exert an erosive destructive effect on the various layers of the tubal wall. This destructive action is exerted as well on the vascular tissues as on the fibrous and muscular tissues.

Rupture of ovarian sacs usually occur before the third month. The final outcome is dependent not on the source, but on the extent, duration and continuity

of the hemorrhage. Retrouterine hematoceles are usually caused by extrauterine pregnancies. Hemorrhages, internal or external, occur in all cases of extrauterine pregnancy at some period of their existence.

(c) The migration of the ovum into the abdominal cavity through the ostium abdominale is known as tubal abortion (Bland Sutton). Tubal abortion may be due: 1. To contractions taking place in the tube, causing separation of the placenta, or hemorrhage into its substance. 2. To detachment of the ovum by repeated small hemorrhages. 3. Hemorrhages in the muscular fibers of the tube. 4. The ovum may be carried out of the tube by the escape of blood in intratubal hemorrhages. 5. To intraovulatory hemorrhages, causing death of the ovum, atrophy of chorionic villi and consequent detachment of ovum. Tubal abortion usually occurs within the first months, although it has been observed to occur as late as the ninth month. At the earlier period of tubal gestation the union of the chorionic villi and tubal mucosa is not very intimate. The tube at this time is not much distended, usually the tubal ostium abdominale is open, and the muscular layers can furnish contractions sufficiently powerful to force the ovum and extravasated blood out of the tubal lumen into the abdominal cavity.

The author has not the least hesitancy as to the proper treatment of ectopic gestation. He holds that this condition is a disease, a dangerous disease, and that the products of gestation should be regarded as a neoplasm, malignant at that. It is to be treated not as a pregnancy, but as any other parasitic or malignant growth. Therefore, surgery offers the only reliable method of treatment. The surgeon's art must be instantly invoked after a diagnosis or probable diagnosis has been made. But three questions should be determined before proceeding to operation. 1. Shall the mother be abandoned to nature? 2. Will she live if operated. 3. Is there less danger in operating the abdominal cavity than may result from the rupture of the gestation sac? It must be borne in mind that an extrauterine pregnancy always terminates fatally to the child, and frequently to the mother, unless artificially relieved.

The dangers attending the expectant plan of treatment are too obvious. Martin collected 265 cases, of which 36.9 per cent. recovered under the expectant treatment. In another series of 515 cases, 76.7 per cent. recovered under operative treatment. Internal hemorrhage due to tubal rupture is responsible for a maternal mortality of 83.1 per cent. according to Cestan. Choyan's tables show a percentage of 84.4 per cent of maternal recoveries after operation.

The only dangers incident to operative interference in ectopic gestation are those of anesthesia, of hemorrhage, of shock, and of sepsis. The first is minimal, the second can be minimized, shock can be largely lessened by rapidity in operating. Careful aseptic and antiseptics almost completely eliminate the danger of sepsis. The diagnosis of ectopic gestation is in itself an imperative indication for operation. Lives can be saved by accurate diagnosis, prompt decision and skillful operation. Where there is absence of urgent symptoms we have an operation of necessity. If rupture has occurred or is taking place, we have an emergency operation. The hemorrhage must first be stopped before any other measures are taken. This can be accomplished only by opening the abdomen. Even in the absence of urgent symptoms, the operation must not be delayed, because as long as the fetus lives the placenta increases, both in size and vascularity, thus vastly increasing the danger of operation. J. Veit says: "Operate in all cases of extrauterine pregnancy, whatever may be the age of the embryo or fetus."

"The early operation is technically no more difficult than the extirpation of the normal non-adherent uterine appendages; the operation toward the end of the pregnancy, by which we mean the total removal of the ovum and its contents, is always formidable, and often technically an absolute impossibility." (C. Fenger.) Operation is not contraindicated by the coexistence of an intrauterine pregnancy. I strongly recommend the abdominal route in operating. Only in cases of pelvic abscess is the vaginal route to be preferred.

The one great difficulty to be encountered in operating for extrauterine preg-

nancy is the hemorrhage. These hemorrhages are due to the separation of adhesions and to the removal of the placenta. A very slight "interference" with the placenta may cause a frightful hemorrhage. Hemorrhages occur either at the time of operation or after operation. Danger from these hemorrhages is the greatest if the fetus is still alive at time of operation, or if it has died only recently. Those cases in which the placenta has continued to develop in the tube furnish but slight complexity to the operation. The placenta, however, has been found adherent in every possible way and to every possible intraperitoneal organ; to the parietal peritoneum, the omentum, intestines, bladder and other intra-abdominal organs.

The following technic has proven successful in our hands. In the preparation of the patient for operation there is one procedure that may well be imitated. Immediately before being brought to the table the patient is catheterized. This is done to avoid incising a distended bladder. The incision is to one or the other side of the median line. The side selected is determined by the vaginal findings at the time of examination. A firmer cleatrix is thought to be more probable from a side incision. An incision to one side of the median line is better adapted to the method of suturing the abdominal wall which we employ. Avoid cutting the epigastric vessels. Avoid cutting the urachus. Make use of the Trendelenberg position. The patient is gradually and not suddenly placed in this position. After completion of the operation, the return of the patient to the horizontal position is to be just as gradual. A thorough examination must be made of the opposite tube and ovary, for there may be evidences of a former or of a co-existing pregnancy of the opposite tube or ovary; there may be disease of the opposite tube or ovary. A needless sacrifice of tissue or organs is uncalled for. If the opposite tube and ovary be unaffected, they must not be molested.

Normal saline solution must not be given by any method before the bleeding has been controlled or the bleeding vessels secured. When the bleeding points have been controlled its use is of signal benefit. Before control has been effected the normal salt solution increases the pressure and is very liable to cause a recurrence of the hemorrhage. The abdomen should not be closed until the operator is absolutely certain of his hemostasis. If possible, do not denude peritoneal surfaces. Such surfaces offer avenues for the entrance of infection. Lessened formation of adhesions is secured by peritonization, or covering denuded surfaces with peritoneum. This procedure also lessens hemorrhage and forms a barrier limiting the extension of inflammatory processes. We employ a method of suturing which has proven very satisfactory. We use an intradermic, a subcuticular stitch, which is continuous and which does not penetrate to the upper layers of the epidermis for the approximation of the skin. A piece of gauze of sufficient size to extend from the points of exit to the points of entrance of our silk-worm gut stitches is placed over the line of incision. The silk-worm gut stitches are tied over it. They are figure-of-eight stitches introduced after the peritoneal stitch has been inserted; the upper loop of each silk-worm gut stitch includes both skin and subcutaneous tissues; the lower loop includes the sheath of the muscular fibers of the rectus. The peritoneal stitch includes peritoneum, properitoneal fat and transversalis fascia. It is so introduced as to evert the edges of the peritoneum, and so that the loop of the stitch does not appear in the peritoneal cavity. The fascial stitch of catgut restores the continuity of the sheath of the rectus. A voluminous gauze dressing is used, but no dusting powder. Zinc oxid adhesive plaster, because of its aseptic qualities, adhesiveness and non-irritating nature is used to hold the dressings in place. Peritoneal straps passing around each thigh prevent the abdominal binder which covers the whole from slipping up.

Your great difficulty comes in those cases in which the entire ovum can not be removed at one sitting, and the great difficulty lies in the removal of the placenta. Another difficulty is due to the presence of dense adhesions of the cyst-wall to surrounding organs and tissues, and also to its vascularity.

The following methods have been employed. Each has its advocates. The methods, however, are not of equal value.

1. The fetus, the umbilical cord and the amniotic fluid have been removed. Everything else has been left *in situ*, and the abdominal wall closed. This is an extremely risky experiment. It has been done, however, with success. In successful cases the placenta is gradually and painlessly absorbed.

2. The fetus is removed and more or less of the sac is resected. The balance of the sac is sutured to the abdominal wall. Drainage is employed and the placenta and what remains of the sac are left for gradual expulsion. This is the most frequently employed procedure.

3. After removing the fetus the placenta is removed in part, or so much of it as is easily and safely separated, and the remainder is left to spontaneous absorption.

4. After removing the fetus the placenta is left *in situ*. Then, after the expiration of a certain time, when it is hoped that the blood supply is spontaneously cut off, the placenta is shelled out.

5. The placenta is removed immediately and completely. Ideal measure if feasible.

6. The placenta and gestation sac are removed at once, likewise the neighboring organs, the uterus and ovaries, providing the hemorrhage can not otherwise be arrested. This is the method that has been employed in those cases that have called for supra- or total hysterectomy. In some cases arrest of the bleeding apparently could not be obtained any other way.

7. Vineberg, thinking that the mortality has increased six-fold by leaving the placenta *in situ*, proceeded in a difficult case as follows: He first ligated the vessels on the free side. Then, cut the uterus across at the level of the os internum, without making any attempt to separate it from the mass to which it is intimately adherent (placenta), and finally ligated the uterine artery on the involved side, thus performing what may be called partial hysterectomy. His patient recovered.

8. Preliminary ligature of the uterine and ovarian arteries on the side from which the placenta receives its blood supply. This is to be followed by removal of the placenta. Martin reported remarkable control of the alarming hemorrhages, due to separation of the ectopic placenta, after tying the uterine and ovarian arteries on the affected side.

There is no disputing the fact that the fetal sac and the placenta should be removed completely if this procedure be consistent with the safety of the mother. The complete ablation of the ovum is theoretically the only perfect operation. It does away with all the subsequent dressing of the case; it does away with the slow and tedious expulsion of the placenta; with the dangers of sepsis that attend this slow elimination of the placenta; it markedly shortens the patient's convalescence, does not expose them as much to the future development of a post-operative hernia.

The method that we have had occasion to follow in these cases in which we feared to disturb the placenta is the following: After having incised the sac, we removed the fetus and other intraovulatory contents, ligated the umbilical cord close to its placental implantation, then we resected a portion of the sac wall and sewed what was left of the latter to the abdominal wound. This closes off the general peritoneal cavity. It leaves a large pouch which is to be packed with strips of aseptic gauze. Endeavor to keep the cavity of this aseptic until all the placenta sloughs out of the wound. The elimination of the placenta by this method takes from 20 to 50 days. Boissard reports two cases, in one of which it took 26 days, a case of a dead fetus, in the other, a case of a living child, it took 45 days.

In some cases a vaginal drain has to be used in addition to the abdominal drains. The first strips of gauze that are inserted in the fetal sac are made to serve the office of a compress, of a tampon; they are used to check the bleeding. After the first dressings the gauze strips are used more with drainage in view. After the fetal cyst has been sewed to the abdominal wall or immediately previous, according to the exigencies of the case, the compresses that have been used

to protect the general peritoneal cavity are removed. Sewing of the sac wall to the abdominal wound shuts off all communication between the cyst cavity and the peritoneal cavity. We use No. 3 or No. 4 catgut to suture the sac wall to the abdominal wall. In some cases you will find it necessary to irrigate this pouch during the subsequent dressings with some astringent aseptic or antiseptic solution.

The abdominal wound is closed as in those cases in which a Mikulicz drain has been employed.

The following is a summary of 32 cases treated at the Cook County Hospital, Chicago, Ill.:

1. Our youngest patient was 18 years; one was 19 years of age. The oldest was 42, the next to the oldest 40 years old. Eleven were between 30 and 40; fifteen were between 20 and 30.

2. Only three of the women gave a history of previous sterility: sixteen had had one or more miscarriages. One of these patients had seven children; another eight; two had four each.

3. Signs of pregnancy, such as tender breasts, enlarged uterus, softened cervix, were noted in about one-half of the cases.

4. Pain in the lower abdominal region; menstrual irregularities, such as delayed or skipped periods or continuous vaginal hemorrhage, etc.; and a palpable mass in one or the other, or both fornices were present, respectively, in 30, 28 and 31 cases. I note these three symptoms under a special heading, because I believe that their presence is highly suggestive of ectopic gestation. We are compelled to state that a study of the literature of ectopic pregnancy convinces us that the following symptoms are of overshadowing importance: (a) Pelvic pain usually referred to one ovarian region. (b) Presence of a mass separable from the uterus, either situated laterally, posteriorly or anteriorly. (c) Menstrual irregularities, such as amenorrhea, etc. (d) In rupture, signs of internal hemorrhage, varying from increasing pallor and fainting spells, up to complete collapse.

5. Conception took place in the right Fallopian tube 17 times; in the left, 14 times; not determined, once. This about equal occurrence in each tube corresponds with the observation of other surgeons.

6. Thirty cases were treated by the abdominal route, one by the vaginal route, one by the combined route. This latter case died. Drainage was employed in nine cases, necessitated in almost all instances by capillary oozing, that was considered alarming.

7. There were two deaths in the series; each were due to a general peritonitis. In one case numerous adhesions had to be torn. In the other the pregnancy was much advanced. All the other cases made rapid and uncomplicated recoveries.

A STUDY OF ONE THOUSAND CASES OF ECTOPIC PREGNANCY REPORTED IN THE LITERATURE OF THE PAST TEN YEARS,
WITH SPECIAL REFERENCE TO DIAGNOSIS AND
THE REPORT OF CASES OCCURRING IN
THE WRITER'S SERVICE.

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CHICAGO.

(Abstract.)

This paper, as the title implies, is a careful study and analysis of a large number of cases. The purpose is to enable the practitioner to promptly recognize and differentiate this grave disease. This paper does not profess to deal with the questions of etiology or pathology of extrauterine pregnancy. Still occasional references are made in order to clear up certain symptomatic data. As far as symptoms are concerned, there is a close relationship between ectopic and normal pregnancy. Diagnosis of the condition is greatly complicated by the frequent eo-

existence of ectopic and normal gestation, and also by the presence of other pathological conditions.

The primary seat of growth and the location after rupture determines the variety of ectopic pregnancy. Theoretically an unlimited number of varieties are possible since an impregnated ovum may become attached in any part of the uterus and tube. But in reality the general distension of the tube from the growth of the ovum or from hemorrhage reduces the number of varieties.

The location of the ovum anywhere between the ampulla and tubouterine junction is classified as the isthmic variety. A distinction is also made between the cases which develop in the wall of the tube; this form is called the tubal interstitial. In this form the lumen of the tube remains intact and is not involved in any direct connection with the gestation sac. Ninety per cent. of the cases reported belong to the isthmic variety occurring in the lumen of the tube, the interstitial form number but 3 per cent.; the other 7 per cent. is composed of those cases where the ovum develops in the cornual wall, at the tubouterine junction, the ampullary form, and the ovarian. More than a score of authentic cases of the ovarian variety have been reported. The tuboabdominal, the abdominal, tuboperitoneal, and peritoneal forms may occur by the rupture or abortion of the tubal variety of gestation. All writers concur in the opinion that the ovum must be expelled with the amniotic sac intact if the pregnancy is to continue.

Course and termination—in whatever location the ovum may establish itself, it continues to grow until some unfavorable event occurs. Hemorrhage, resulting in the death of the ovum, occurs from the separation of the chorionic villi from the wall to which they are attached. Complete or partial absorption may follow or a mole may form. If the ovum continues to live its growth increases until the elasticity of its host is overcome and the sac ruptures.

The abortive process which dislodges a tubal pregnancy may be complete or incomplete. The tubal form ruptures either into the intraligamentary space or into the peritoneal cavity; the ovarian into the peritoneal cavity. The tubal interstitial ruptures into the lumen of the tube or into the peritoneal cavity; the interstitial finds its way into the peritoneal or uterine cavity. The intra-ligamentary may result in secondary peritoneal rupture. In case of tubal abortion, whether the ovum be expelled into the uterine cavity or into the interstitial portion of the tube itself, there may be a later rupture into the peritoneal cavity. Rupture of the gestation occurs as the result of two causes, other than traumatism and manipulation, distension from hemorrhage and the destructive action of the trophoblasts on the sac wall.

In a series of 1,227 cases 45 per cent. were cases of tubal abortion and 44 per cent. tubal-peritoneal rupture, 11 cases of rupture into the broad ligament, and 25 cases unruptured. There were also a number of undetermined cases.

In some cases of rupture or abortion, the hemorrhage takes place gradually, resulting in a smooth globular tumor. When the hematocele is situated at the ostium of the tube it is called peritubal and when beyond the ostium paratubal. Simultaneous rupture and abortion may give rise to both varieties of hematocele in the same tube. If the ovum escapes into the peritoneal cavity it may continue as an abdominal pregnancy to term, or remain for years as a lithopedion.

Symptoms.—In all cases of ectopic pregnancy a mass is situated within the pelvis or lower abdomen. The size of this mass varies from that of a microscopic nodule to that of a uterus at term. It may be freely movable or rigidly fixed by adhesions and may correspond to an enlarged tube, ovary, or to a tumor of the uterine horn. Its location may be the space between the layers of the broad ligament, extending completely across the pelvis, surrounding and enveloping the uterus and bladder in one immovable mass. It may be in the cul-de-sac of Douglas, or it may fill the peritoneal cavity.

In 334 cases the right tube was involved 189 times and the left tube 147 times. A few cases are recorded in which both tubes were involved simultaneously or consecutively. Out of 1,000 cases the ovary was the site of the tumor twenty

times, the tubo-uterine junction thirty-two; in 11 cases the tumor was found between the layers of the broad ligament.

From lack of data it is impossible to compute the exact percentage of the value of pain for diagnostic purposes, although it seems a rather common factor. A localized, sharp, agonizing pain is to be associated with the acute distension of the gestation sac; gnawing, uncomfortable, localized, painful sensation is associated with increased pressure within the sac; local cramp-like pains are constantly found in cases of tubal abortion. Severe, intermittent or constant pain is usually the forerunner of the rupture of a pelvic hematoma or hematocele. In these cases of painless rupture, microscopic examination has revealed that the rupture was due to the disintegrating action of the trophoblasts. Abdominal pain and tenderness analogous to that in peritonitis is usually associated with free blood in the peritoneal cavity. Palpation always produces pain. In 70 cases of tubal abortion there were cramp-like pains. No complaint of pain was made in 6 cases of ruptured ovarian pregnancy. In 30 cases of tubal pregnancy more or less pelvic discomfort was present. Pains varying from the just uncomfortable to cramp-like were present in 11 cases of hematosalpinx. In 2 cases of rupture there were bearing down pains.

Primary rupture may occur with little or no pain, while severe and unbearable pain accompanies the distension of a hematocele by fresh hemorrhage.

The extent of free hemorrhage into the peritoneum is determined in some cases by the site of the peritoneal rupture. On opening the abdomen, fresh hemorrhage and recent clots usually denote primary rupture. If there are no fresh hemorrhage or old clots present, then the operator has to do with an hematocele, hematoma, or hematosalpinx.

Age of the patient is of no diagnostic value. The ages varied from 21 to 45 years in 280 cases, the average being around 30. Still the limit may be set far beyond 45 years in cases which have gone to term and the fetus remains as a lithopedion. Normal impregnation of the ovum may occur previously or subsequently to an ectopic pregnancy. In a series of 280 cases, only 37 cases were women in their first pregnancy; 243 had been pregnant from 1 to 8 times.

Signs and symptoms of ordinary pregnancy may or may not be present. Out of 223 cases 50 per cent. showed great irregularity in menstruation. In 60 cases changes in the breasts were noted in 19 cases, in 11 the decidua was cast off: 6 had all the symptoms of pregnancy, and 11 only nausea and vomiting out of a series of 30 cases. Shock occurs in all cases of profuse hemorrhage. Displacement of the uterus depends on the size and location of the gestation sac.

Differential Diagnosis.—Solid tumors, as a rule, are not painful on palpation. Micturition may be frequent and there may be marked constipation, but the act of defecation and micturition is without pain. Cystic tumors of ovary or uterus, hydrosalpinx and hematoma from other causes, cause the greatest difficulty in making a diagnosis. The infectious processes need give but little trouble. Perforative appendicitis, with peritonitis, has a typical history of its own in addition to the shock. The rupture of the other abdominal viscera is generally preceded by a history of disease or trauma. Hemorrhage from malignant growths should not give much trouble. Neither should hemorrhage in the interstitial wall, as the position it assumes does not agree with that of ectopic pregnancy. Five cases occurring in the writer's service are referred to.

Cases 1 and 2 were seen in consultation. A tumor the size of a fist was present in the left pelvis of both patients. Both were enretted for a supposed abortion; in one the hematocele was intact, the other had one-half pint of free blood in the abdominal cavity, a hole in the lower part of the sac showed where secondary rupture had occurred. A portion of the omentum had forced itself into this aperture and practically occluded it.

Case 3 was a three or four week unruptured tubal pregnancy, discovered while operating for a large ovarian cyst. The left tube was involved.

Case 4, primipara, age 17, missed two periods, afterward experienced sharp, local intermittent pains in the right side of the pelvis, accompanied by a rise in

temperature. A tender mass the size of an orange occupied the right side of the pelvic cavity. For two months the patient was free of unpleasant sensations, then the pains reappeared and became so severe that it was decided to operate. The tube had ruptured and formed part of the wall of the resulting hematocele.

Case 5, primipara, age 29. One morning, without warning or preliminary symptoms, she experienced a severe localized pain in the right side and fainted. Two hours later regained consciousness and summoned aid. General soreness of the abdomen. During the next few hours the abdominal soreness increased. She was almost pulseless and appeared collapsed when medical aid arrived. The peritoneal cavity contained three or four pints of free blood and some recent clots. The tube had ruptured near the tubo-uterine junction. Chorionic villi was found in the sac within the tube, but the fetus could not be found.

Case 6, M. S., age 31, had a child ten years ago, and a number of miscarriages, last one being ten years ago. Menstruation had been normal up to six weeks before onset of symptoms. She had considered herself normally pregnant. One evening she experienced a sudden pain in the pelvis, on her right side. Examination revealed a tender mass, the size of a large orange, firmly fixed in the pelvis. Pulse and temperature were normal. The following day pain had disappeared except some soreness over the abdomen. At operation, rupture of a tubal gestation and a small quantity of blood in the abdomen. A fetus ten weeks old was found in the peritoneal cavity and cord and placental tissue were in the tubal cavity. The tube was removed and abdomen closed.

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DISCUSSION.

Dr. Carl Beck:—The topic chosen by Dr. Steffenson and Dr. Heineck is so large, and the number of pathologic conditions so enormous, that it is difficult to pick out one or the other feature of the papers and discuss it. We all appreciate the work they must have put in to read all the histories of the cases reported, and we should be thankful that they have sifted the matter down to the facts they have mentioned. I was interested in some of the statistics given by Dr. Steffenson, and have learned a good many things from them. I will not go into details, but limit my remarks to a few points.

First, I will speak of the diagnosis. We think, surgically, that there is only one method to diagnose correctly a case of extrauterine pregnancy, and that is the surgical method of exploration. All other methods are more or less uncertain, and we should not rely on any method, nor, for that matter, on any kind of treatment except purely surgical. I was very glad to hear Dr. Heineck emphasize the point that extrauterine pregnancy is no more a gynecologic pathologic condition, one that may be treated with manipulations, electricity, injections, etc., as all such methods are out of date, and there is only one method of treatment, and that is a purely surgical exploration and action according to the exigencies of the case. The method of operation has to be individualized. There is no particular method of treatment of a case of extrauterine pregnancy except perhaps one, and that is the abdominal. Even the indication for a vaginal procedure mentioned by the essayists is not absolute. In the presence of an abscess it is better to make the abdominal operation, drain the abscess through the vagina, but explore the abdomen first and, if necessary, wall off all exposed surfaces and prevent the pus from coming on to surfaces which might be infected. In this way we can often make the operation perfectly harmless; so that, I should say, the treatment in all cases should be by abdominal incision.

There is one point concerning which I do not agree fully with Dr. Heineck. In 1892 I published a paper in the *American Journal of Obstetrics* concerning ectopic pregnancy occurring twice in the same patient. During that time I studied the literature very carefully, and advocated in that paper that in cases of extrauterine pregnancy, in the presence of pathologic conditions of the other tube, we should remove this tube, but not the ovary. Of course, when the other tube is absolutely normal there is no reason to excise the tube according to our present knowledge of pathologic conditions which produce ectopic pregnancy. But in the

presence of the slightest pathologic condition, some adhesions, some abnormal direction of the tube through adhesions, etc., we should remove the second tube, as my case and other cases in the literature prove that ectopic pregnancy may develop in the same patient. I know of a number of such cases from my personal experience. You will find that if the pathologic condition is favorable to one tube, it is apt to favor the other one; notwithstanding a number of cases which have been reported where normal pregnancy has followed extirpation of the tube.

Dr. Victor J. Baceus:—The few remarks which I wish to make on this subject are based on an experience of 32 cases, 5 personal cases and 27 cases of extra-uterine pregnancy which I saw in association with the late Dr. Henrotin. My work at the time consisted in taking the histories of the cases most carefully, assisting at the operation, making histological sections, and studying them under the direction of Dr. Herzog. The statistics which have been collected by Dr. Steffenson are of great importance to us, particularly those during the last ten years, and they can be relied upon. The few words I have to say have reference to cases of extrauterine pregnancy which present themselves to our office unruptured, and particularly the cases during the first two or three months of pregnancy. We should always keep in mind that it is very essential to take a systematic history of every case, as well as to make a systematic examination of the pelvic organs, and after discovering a tumor, we should bear in mind the possibility of extra-uterine pregnancy. Failing to differentiate the tumor, we have two means at our command which may prove to be of considerable value, and which will enable us to make a correct diagnosis in the majority of cases. First, in a case of extra-uterine pregnancy the uterus undergoes a certain change which corresponds normally with the uterus up to the third or fourth month of pregnancy; that is, the cervix is patulous, the uterus large, and it is easy to reach the uterine cavity. The decidua is very rarely shed prior to the third or fourth month, and we have at our command the means of introducing a curette into the uterine cavity, to obtain some products from the uterine cavity for the purpose of microscopic examination. As a rule, if the slide is fixed properly, we will be able to find decidual cells. This procedure alone, the microscopical examination made by Dr. Herzog, in two cases made the diagnosis, while all the other symptoms were negative.

The next agent which will aid us in making a diagnosis without resorting to an exploratory laparotomy is the use of the *x*-ray by an expert, remembering that the embryonal ossifying centers occur from the fifth week on. Therefore the skiagraph may give us information in the early cases of extrauterine pregnancy. Thus, we may be in a position to advise the patient that she has extrauterine pregnancy; that any moment rupture is liable to take place, and that she should be operated at once. On the other hand, if it should prove not to be an extra-uterine pregnancy, and that the patient has small ovarian cysts, she may not require an immediate operation.

The next thing I wish to mention in connection with the cases of ruptured extrauterine pregnancy which has not been mentioned by Dr. Steffenson, is that when bleeding occurs, the patient, as a rule, will complain of rectal tenesmus as well as desire to urinate frequently. In patients who give a history of disturbed menstruation we should always bear in mind the possibility of the existence of extrauterine pregnancy. I have brought here this evening a specimen of extra-uterine pregnancy which was removed by Dr. Henrotin, at which operation I assisted. The patient carried this fetus for seventeen months after full gestation. She gave a history of extrauterine gestation, went to full term, had small labor pains which lasted twelve hours, then there was cessation of labor pains, gradual diminution of the size of the tumor to its present size, and seventeen months later entered the Policlinic Hospital, and after being under the care of Dr. Henrotin for some time a correct diagnosis was made by him. Operation was advised and performed successfully, the patient making a complete recovery.

Dr. William Fuller:—In consideration of the subject of extra-uterine pregnancy, it should be remembered that the conditions before and after rupture, are entirely different, and have little in common clinically. The symptoms of an

ectopic pregnancy before rupture are those of a normal pregnancy; ample time is at hand in which to make a careful study of the patient's condition, consequently but little doubt need be entertained as to the accuracy of the diagnosis. Exceptionally, however, other pathologic conditions will be confused, even after prolonged and careful study, with unruptured tubal pregnancies, but these lesions are also surgical ones, and require the same treatment as the former.

A tubal pregnancy after rupture, provided the hemorrhage is considerable, may resemble any other abdominal condition associated with hemorrhage. The diagnosis in these cases is not only difficult to make, but it is indeed very often impossible to say in just what part of the abdominal cavity the trouble is located. The sudden onset of the symptoms, the desperate nature of such cases, easily lead one into grievous error in the diagnosis, and suggest faulty and dangerous treatment.

It was my privilege recently to witness an operation by a leading surgeon of this city, on a young woman whose case was thought to be, unquestionably, that of gall bladder disease. Large quantities of free blood gushed from the abdominal cavity as soon as the latter was opened, and the greatest surprise came with the discovery of the source of the blood, which proved to be from a ruptured tubal pregnancy; a condition which had not even been suspected. I believe that in a case where pregnancy is not thought of, or when it is regarded as unlikely, that the correct diagnosis in the ruptured cases with free hemorrhage, will rarely be made. Many of these cases are found in complete collapse and such information as may be gathered under circumstances like these, is hurried and therefore unreliable. Physical examinations reveal nothing that would justify an opinion, and the time required to properly study such cases is wanting.

Concealed hemorrhage from whatever cause would, in all probability, suggest the true nature of such conditions, if blood examinations were the routine practice. The reduction in the hemoglobin and diminution in the number of red cells are so striking that on this evidence alone, the diagnosis might often be made.

The treatment of ectopic pregnancy, ruptured or unruptured, without exception, is surgical, and as Dr. Beck has said, should be done by a laparotomy. Experience teaches us that vaginal incision and drainage, except in rare instances as mentioned by Dr. Heineck, is a mistake, and the most unsafe and unwise manner in which to treat these cases.

Dr. Emil G. Beck:—With regard to the diagnosis of extrauterine pregnancy by means of the *x*-ray, I believe it has a very limited field, for the reason that very early in pregnancy the fetus does not contain any substance which would show in an *x*-ray picture. Cartilage does not show in a skiagraph, and it would only show in cases in which pregnancy is far advanced, as for instance, in the case of a fetus such as we have seen here to-night. Besides, in a woman who is normally pregnant the use of the *x*-ray would be contraindicated since it has an injurious effect upon embryonic tissues, and in a normal pregnancy the *x*-ray might produce an abortion. Therefore, I would not like the statement made by Dr. Baccus to go out that we should try to make a diagnosis of extrauterine pregnancy by the *x*-ray. We should not advise the use of the *x*-ray in pregnant women, for either diagnosis or treatment.

Dr. C. O. Young:—I wish to say a word or two in reference to a statement made by one of the essayists that an elevation of temperature does not accompany extrauterine pregnancy, so that absence of fever should lead one to make a diagnosis in favor of ectopic pregnancy; whereas, the contrary would be in favor of some inflammatory condition. My experience in these cases has led me to pay very little attention to the temperature, particularly slight elevations of temperature, because it has been my misfortune to be called in cases where something has been done. Very frequently the patients have been curetted with the idea that there was an incomplete abortion, and when I have been called in the case it has been my misfortune to find elevation of temperature, possibly due to the curettage, and in one instance which I recall the postmortem showed a pyosalpinx on the other side, explaining the elevation of temperature. A slight elevation

of temperature is not uncommon in these cases even when curettage has not been done, either from absorption from the blood exudate or infection from the neighboring intestinal canal. I have also found it of great advantage in operating on these cases where the hemorrhage was profuse at the time of operation to run my hand down along the pelvis over the bladder, and thus quickly locate the uterus and immediately place a clamp on the vessels at the cornu of the uterus. This materially helps in controlling the hemorrhage.

Dr. A. Belcham Keyes:—There is very little use in going over the matter of the age only of these patients, but extrauterine pregnancy should be thought of in regard to the nullipara or multipara. Extrauterine pregnancy occurs only in about one out of 70 nulliparous women. Six cases in 70 occur in women who have borne one child, sixty-three cases out of seventy in women who have borne many children. Often after bearing several children the woman without apparent cause passes years without becoming pregnant. This points to a moral, and it is good that there are several obstetricians here to-night who will bear me out that it is not the age of the patient, but that the majority of cases of extrauterine pregnancies follow an old obstetric infection. It is quite interesting, in looking up and examining the histories of these cases, to see how little it has to do with age itself. We should make it a rule in every case of a pregnant woman, whether a primipara or a multipara, to examine always for extrauterine pregnancy. Such a rule I have followed for several years. We should never omit to remember that it is the woman whom we have attended many times in whom this condition is most liable to occur. These cases often show a previous perimetritis of an ascending character, and in that lies the secret of the etiology of the case, viz., an old ascending puerperal infection.

I agree with the remarks of the last speaker in regard to curetting. Several times we find practitioners who have curetted women for a supposed abortion from intrauterine pregnancy, when in truth it was an extrauterine pregnancy. I cannot agree with Dr. Baccus in regard to introducing a curette into the uterus for the purpose of making a diagnosis in these cases, as I feel it is too dangerous. It is better to make an exploratory median incision in doubtful cases than to risk infecting the patient.

In the Tübingen Clinic the majority of tubal pregnancy cases ruptured before the second month, nearly all before the third month, one went to the sixth month, and one went to term. Early and sudden and easy rupture is the rule in these cases. One case ruptured in the Presbyterian Hospital between the time of examining the woman and the operation, a period of about one hour. It behooves us to be very gentle in making our examination. We should not repeat them unnecessarily, but prepare for immediate operation. The mucosa and submucosa of the corpus endometrium forms the bed for the chorionic villi, while in the tube their structure is so thin that the tube wall is pressure atrophied and ruptures consequently early.

In extrauterine pregnancy the symptoms are practically no different from those of intrauterine pregnancy, except that we have a uterus that is empty, excepting for the false decidua in it, and a growing tumor (the enlarging tube), by the side of the uterus. This discussion is one of the greatest importance to the members of this society. These cases should be viewed seriously as to their gravity, because rupture in so many instances means death unless a competent operator is at hand and has the necessary armamentarium to do a laparotomy with the precautions it should be done.

Dr. Victor J. Baccus:—With reference to the remarks made by Dr. Beck, I will say that I can show him the literature which supports me in the use of the *x*-ray in these cases of extrauterine pregnancy. As to the exposures, they are so short, say within three minutes, that no injury whatsoever can be done. I have recently gone over this ground very thoroughly, and I can show Dr. Beck the gynecological papers which support me in what I have previously said regarding the use of the *x*-ray as an aid to diagnosis in these cases of extrauterine pregnancy.

Again, Dr. Keyes misunderstood me. We do not curette the uterus. We

simply obtained some blood and uterine contents for microscopic examination for diagnostic purposes. There is absolutely no danger attending this procedure. It should be understood that no careful man would introduce a curette into the uterus without careful and proper aseptic preparation. When the curette is used it should be handled properly, gently introducing it in the uterine cavity, and while withdrawing it rub it slightly against the uterine walls.

Dr. Steffenson (closing the discussion on his part):—In regard to dividing the diagnosis into the symptoms before rupture and after rupture, I will say that the literature will agree with Dr. Fuller if he confines himself to peritoneal ruptures, but if he includes all other ruptures, it will not. There are innumerable cases in which we have intraligamentary rupture, intramural rupture, etc., in which we have no symptoms developing from such ruptures. The only differentiation that can be made as far as rupture is concerned is peritoneal rupture, with a rapid pouring out of blood. There are many cases in which the blood comes out very slowly; in fact, the blood may be encapsulated, making it paratubal, the case giving no symptoms except that of a mass which does not develop, differing in no respect from the cases that have not ruptured.

Dr. Heineck (closing the discussion):—While the vaginal route in cases of extrauterine pregnancy is becoming more and more unpopular, and deservedly so, it should not be entirely abandoned. Many practitioners employ both routes in the same individual, in cases in which either the abdominal route or the vaginal route alone are insufficient. The abdominal route commends itself to me for the following reasons: It enables one—

1. To attend to co-existing pathologic conditions at the same time that the ectopic gestation sac is removed.
2. To secure a more complete and more careful hemostasis, as the operative field is much better under control.
3. To arrest the hemorrhage with greater rapidity.
4. To better judge of the extent of damage to make a more direct examination, and thereby make a more accurate diagnosis.
5. To make a more conservative ablation of organs.
6. To get more quickly in contact with the condition, and to better and more completely remove the fetal sac and its contents.
7. To make use of the sense of sight, as well as of that of touch, when operating for these conditions.
8. In case a mistake in diagnosis has been made (having made use of the abdominal route), one has ready access to those conditions that simulate extrauterine pregnancy.

If the opposite tube be the seat of a pyosalpinx, of a hydrosalpinx, of a benign or malignant neoplasm, of an ectopic pregnancy, it is needless to say that we should remove it. If the opposite tube be the seat of pathological conditions sufficient to warrant its removal, its ablation in the presence of ectopic pregnancy is not contraindicated, in fact is indicated. There are many able authorities who favor the opinion expressed by Dr. Beck that extrauterine pregnancy shows a tendency to recur, and that as a prophylactic measure, the unaffected tube should be removed. However, I am not able to convince myself that as a general rule such a procedure is not improper.

There must not be very much delay in these cases. We must operate promptly. Every day of delay hazards the woman's life; it increases the vascularity of the placenta, the size of the ovum, and the difficulties incident to the partial or complete ablation of the product of conception. Every day of delay increases the risk of rupture of the gestation sac, and rupture may mean immediate death. We think that as soon as you have presumptive evidence of ectopic pregnancy, you have an operation of necessity. If the condition be not urgent, give the patient the benefit of all the refinements of modern aseptic and antiseptic operations, but in the presence of rupture you have an emergency operation; you must not delay. Every minute is precious. Do not trust to expectancy. You cannot see

through the abdominal wall to determine whether the hemorrhage incident to rupture has ceased or is continuing.

Most of the cases that have come to the Cook County Hospital had been curetted outside; a diagnosis of abortion had been made, or attempts to induce abortion had been made. I have seen a few cases in which an attempt had been made to induce abortion. The uterus had been curetted, the ectopic sac had been ruptured by the manipulations incident to the curettage, and peritoneal hemorrhage had followed. In two cases death resulted.

Dr. Keyes referred to the matter of great care in examining these patients on account of the fear of rupture. Vaginal and bi-manual examinations must be conducted cautiously and gently. Many are the gestation sacs that are ruptured by careless and rough examinations; if the sac is ruptured, hemorrhage can, if it has ceased, be started anew by rough handling.

Meeting of Jan. 9, 1907.

Regular meeting, held Jan. 9, 1907, with the President, Dr. George W. Webster, in the chair. Dr. John B. Murphy read a paper on "Surgery of the Spinal Cord and Peripheral Nerves." Dr. William E. Morgan reported a "Case of Neurectomy for Neroma, with Transposition of Nerves." These papers were discussed by Drs. Archibald Church, Hugh T. Patrick, Julius Grinker, Hecht, and Dr. Murphy.

REPORT OF A CASE OF NUERECTOMY FOR NEUROMA WITH TRANSPPOSITION OF NERVES.

WILLIAM E. MORGAN, M.D.

CHICAGO.

The case with which I have the honor to engage your attention is illustrative not only of the advantages to be obtained by painstaking efforts at renewed activity in an otherwise useless peripheral nerve, but also exhibits in pronounced character the sacrificial expense in other nerves which was necessitated by the operation. Allow me a moment in which to refresh our memories on the terminal distribution of the forearm and hand branches of those nerves which are concerned in this case, namely, the median, the ulnar and the internal cutaneous.

1. The Median. This nerve in its descent through the forearm supplies all the superficial flexors except the flexor carpi ulnaris, and all the deep flexors except the inner half of the flexor profundus digitorum. After supplying these muscles with their motor and trophic currents, and passing to the wrist and hand, we find that it supplies in large measure not only the motor and trophic currents to flexors and adductors of thumb, index and middle fingers in the hand, but also sends sensory filaments to the palmar surfaces of these same fingers. The functional conclusions of this supply are, therefore, first, that the thumb, index and middle fingers depend very largely on this nerve for their flexor usefulness. Second, that the tactile palmar sensitiveness on these same fingers is largely dependent on the same nerve.

2. The Ulnar. This nerve in its descent in the forearm supplies motor influence to the flexor carpi ulnaris, and to the inner half of the flexor profundus digitorum, and in the hand the motor current to the short and comparatively unimportant muscles in the deep palm of the thumb side and almost the entire sensory current to the inner side of the wrist, the palm and back of the hand on its inner side, and a large share of all sensation to the little and ring fingers, both palmar and dorsal.

3. The Internal Cutaneous. Is almost, if not entirely, a sensory nerve which devotes its attention to the skin on the inner palmar and dorsal aspect of the forearm and wrist.

Now, with this very brief outline of the relative importance of these nerves, allow me to submit the following as my clinical proposition: Given a young man following the occupation of expert accountant, and therefore dependent for a living on his ability to think and write rapidly and correctly, who slowly becomes a

median nerve paralytic through the growth of a large fusiform tumor of the median nerve involving some four and one-half inches of its trunk, the tumor practically occupying one-half the length of the arm above the elbow, what can we do to restore the lost flexor, motor and sensory dexterity of his thumb, index and middle fingers, and still preserve his tactile and trophic functional powers in the little and ring fingers, which in his occupation are constantly subject to attrition and hence with a loss of trophic and sensory influence might easily become ulcerated and necrotic?

With this proposition I reasoned as follows: First, the tumor must be removed and so much of the nerve lost that re-approximation of trunk with terminal end is impossible. The patient can afford to lose flexor dexterity in his little and ring fingers, but he cannot afford to lose his tactile sensibility in these fingers. Now, may I not supply his terminal median with motor power from his ulnar, and preserve his tactile sense at the same time in the little and ring fingers with the internal cutaneous? The history of the case, with the presentation to-night of the patient for your inspection, is my answer. You will notice a rather woeful deformity by atrophy of the deep muscles of the palm, a loss of supinator power in some degree, but the patient still is able to earn as good a living at his chosen profession as before, is wholly without pain, has good tactile sense in all his fingers, and never has had the slightest sign of pressure or accidental necrosis of the inner side of hand or little finger.

Mr. D. B. H., aged 21, occupation accountant. Admitted to Mercy Hospital, March 10, 1902. Family history not entirely negative, there having been members of the family with carcinoma, and some with connective tissue neoplasms of benign character, but of no definite hereditary taint. No venereal or tubercular infection. No trauma. Three years before entering hospital, noticed a small kernel on inner side of arm at about its mid-point, which grew slowly larger, became tender to touch, and made the hand feel weak. In January, 1900, it had become as large as a hickory-nut, and an exploratory operation was attempted and abandoned when the tumor was found to completely involve a large nerve trunk. From that time on the tumor made progressive enlargement, the flexor power of thumb, index and middle fingers became gradually weaker, pain of an aching and numb character became constant in hand and fingers, and marked atrophy of flexor forearm and palm muscles became manifest. All of these symptoms during the six months previous to coming to hospital so rapidly increased as to finally render use of the hand impracticable. X-ray treatment and iodids were used for some weeks previous to entering hospital without further benefit than a slight allayment of pain, and the x-rays finally produced a rather intractable burn, which gave much trouble from superficial infection. Local examination showed a fusiform tumor occupying the lower inner half of the right arm, in the neuro-vascular fold, the tumor pushing muscles forward and backward. Tumor partially movable, but fixed to the skin, the skin showing a superficial ulceration, $1\frac{1}{2}$ by 3 inches in extent (x-ray burn), and the tumor seemed to have an upper and lower fixation, as though tied at each end. Length of tumor by rough measurement, $4\frac{1}{2}$ inches; diameter at midpoint, about 2 inches. Operation was as follows: First, a careful and thorough removal of the burned skin down to the tumor. This was done for the purpose of removing an infected area which might seriously impair the results of the remaining steps. Second, and with much difficulty on account of its close vascular and nerve companions, the tumor was finally lifted from its bed and was found to be a fusiform mass, with the whole of the median nerve entering and spreading into the tumor mass at the proximal end, about the mid-point of the arm, and leaving it in the same way just above the elbow joint. A silk anchor-guide was passed through the distal end of the nerve, the tumor removed, and the proximal end of the nerve allowed to disappear. Third, by tracing from internal condyle upward, I had little difficulty in isolating my ulnar nerve, and after guide-anchoring its distal portion at the elbow fold, I severed it and brought its proximal trunk to the distal median and there sutured the two together in the usual method for nerve suture. Fourth, the same pro-

cedure was followed with the internal cutaneous trunk and the distal end of the ulnar nerve. Fine silk sutures and ligatures were used throughout, gauze drain supplied as a precaution, and the arm dressed in flexion to avoid tension on my nerve sutures.

Within forty-eight hours after the operation the patient had tactile, heat and cold sensibility in the palmar surfaces and tips of thumb and all of the fingers. Co-ordinate and governable movements of the flexors, however, did not appear until some two months and a half after operation, from which time mobility rapidly increased and co-ordination correspondingly improved. Atrophy of the thenar and hypo-thenar eminences rapidly took place, however, and the interosseous spaces became very marked because of the shrinkage. There is a marked inability to fully extend the fingers, due no doubt to the contraction of the atrophied palmar tissues.

Since the operation he finds it easier and hence habitually writes with the pen between the index and middle fingers, using the thumb for counter pressure and control.

I submit the following as my conclusions:

1. That the operation of removal of the tumor was a fully warranted procedure, as it was rapidly growing, caused much local pain, and rendered his hand practically helpless.

2. That the transposition of nerve trunks was warranted and rational for the preservation of those parts necessary in his occupation.

3. That the sacrifice of otherwise very important nerves was warranted and rational for the same reason.

4. That the deformity is deplorable, but I believe under the circumstances unavoidable.

5. That the *x*-ray treatment was useless and visionary, and damaged the skin.

6. The sensory filaments physiologically recover quickly, the motor filaments very slowly, after transposition, in this case, markedly confirming the physiological laboratory researches of the past twenty years.

The tumor proved to be a pure neuroma of a length after rigor mortis of four and one-half inches, and a gross central diameter of an inch and a quarter. The tumor was uniform in structure, involving all of the diameter of the nerve. That part of the tumor most closely exposed to the *x*-ray was markedly softened, with a distinct fatty degeneration and some *x*-ray necrosis of its sheath.

DISCUSSION.

Dr. Archibald Church:—I wish to express my appreciation of Dr. Murphy's masterly exposition of this subject. The principles governing the surgical procedures have been most lucidly and admirably presented. In such cases of spinal cord injury in which surgical procedures were contemplated, where I have been called on for an opinion as to the advisability of operation, the question seemed to depend not on the relative amount of injury to the cord, but as to whether or not it had been actually divided. Dr. Murphy very definitely told us that at certain levels, namely, at the eleventh dorsal vertebra or below, an injury to the cord demanded surgical intervention. With that proposition I agree. Injuries above that level hinge on the question whether the cord is partially or wholly divided.

I am not in accord with Dr. Murphy when he says that sensory symptoms are a fallacious guide. I would insist on examination of the sensory conditions in a most careful and painstaking and experienced fashion. I have on several occasions seen cases of spinal cord injury that had been consigned to the limbo of the helpless and placed outside of the pale of surgery when sensation in the legs was present, the supposition being that the cord had been pulped or sheared off as by a fracture-dislocation.

It is highly essential that one should be familiar with the sensory areas of the body supplied by the various segments of the spinal cord. The area of sensation in the trunk in relation to the spinal cord is outlined in zones by horizontal planes. I recall that while Starr, of New York, was working on the segments of the cord that supplied sensation to the buttocks and lower extremities, Dr. Eisen-

drath and I, as the result of the examination of a number of cases, published for the first time the facts tending to show that sensation on the trunk as related to the cord follows more or less horizontal planes of the body.

If we can find sensation below the level of the injury to the cord, a definite perception of sensation, even in any modified form, we can definitely establish the location of that injury, and the fact that the cord is not entirely divided. The difficulty is that when the cord has been bruised or contused, or is the seat of a hemorrhage, or is pressed on by a hemorrhage in the spinal canal, that under the influence of the lesion and the reactionary changes taking place for a few days following the injury, the transmission of sensation may be temporarily prevented, so that often the sensory conditions can only serve as a definite guide at a period comparatively late in the history of the case, that is, after ten days or two weeks. Immediately following the injury, it does not furnish the evidence that it supplies later on, and so it is not the invaluable guide that it might be.

The next point of importance in determining the cutting off of the cord is the condition of the reflexes. It is pretty thoroughly demonstrated and is substantially accepted that in the human subject if the cord is entirely divided all the muscle reflexes below the level of division of the cord are at once and permanently destroyed; excepting some little tendency for the sphincters to recover a pseudo-activity. The absence of knee-jerks and heel-jerks and other muscle responses in the lower extremities in a case in which the cord has been injured, persisting for two or three weeks, months or years, proves that the cord has been absolutely divided. Here, again, an index of the very first importance might be absent in the early days following the injury, as these reflexes may be temporarily inhibited, so that the absence of the tendon reflexes within a few days after the onset of the symptoms does not furnish the same guide it does a little later on.

Turning to the peripheral nerves, I must insist that sensory conditions are among the most important guides. I recall a case of fracture of the humerus resulting in more or less injury to the musculo-spiral nerve, with more or less loss of power immediately after the injury. Eighteen months after the fracture there was still loss of power in the musculo-spiral area. It was determined by the surgeon in charge that it was necessary to cut down on the callus and liberate the nerve, resect and bring the ends together, or do whatever might be necessary. On testing the sensations in that case, though, there was not the slightest evidence of any return of voluntary muscular power, the loss of sensation was reduced to a little narrow strip in the middle of this physiologic sensory zone of the musculo-spiral distribution, proving that sensation had been restored. In the course of another six months there was restoration of complete function without operation.

In another case a man sustained a dislocation of the hip joint. Ten days after the bone had been restored to its socket splints had been applied and other measures had been instituted, the patient perceived a numbness or tingling in the foot. There was evidence of disturbance of the sciatic nerve. The question arose whether it would be desirable to cut down on the neck of the femur for the purpose of liberating the nerve, but on examination it was found that there was improving tactile sensibility. An improvement in the sensory conditions in the following two weeks further demonstrated the lack of any necessity of resorting to a cutting operation, an opinion in which Dr. Murphy concurred, and the patient has gone on to recovery. The sensory conditions are of the highest importance when carefully investigated in determining the necessity of cutting operations. You will recall in Dr. Morgan's case that sensation reappeared almost at once, motion and electrical responses only after months.

I most heartily commend the dictum Dr. Murphy laid down relative to the necessity of placing axis cylinders end to end, placing the nerves in physiological line instead of trying to reverse functions.

Dr. Hugh T. Patrick:—I have very greatly enjoyed this renaissance of nervous system surgery. It is high time we were having it, and my colleagues and I are glad to welcome Dr. Murphy among the ranks of the neurologists, where he evidently belongs. As to the surgery of the spinal cord, Dr. Murphy's remarks have

been limited to acute surgery, and I quite agree with almost everything he has said.

Relative to the importance and value of eliciting the presence of sensory disturbances, I am sure Dr. Murphy will agree that examinations of sensation are of extreme value, not only to themselves, but in relation to motor disturbances. As I have been teaching for the past twelve or thirteen years that surgically the cauda equina is to be regarded as peripheral nerves, there is no difference of opinion on that point.

As to operative interference in injuries of the spinal cord, I have gradually come to the position that when the evidence shows that there is pressure, an operation should be done. When the evidence shows that the disability is due to a section or to a laceration, whether by direct violence or by hemorrhage, operation is not indicated, because a laceration is practically a section, and, as Dr. Murphy has explained, a section in the spinal cord does not reunite. Consequently, whether it is section by cutting, stabbing, laceration or hemorrhage, there is nothing to be gained by operation. When the evidence shows that there is pressure on the cord, which may be relieved by operation, then operate, because in such disturbances the pressure is to be regarded exactly as if it were caused by a tumor or by the inflammatory products and caseous detritus of a spinal caries. Here the sensory symptoms give most valuable information as to whether one should operate. So long as the patient is paraplegic from spinal caries, but not anesthetic, there is plenty of time to wait. As soon as marked anesthesia supervenes, it is time for the surgeon to get busy.

I was much interested in Dr. Murphy's explanation of Hart's case of suture of the spinal cord. I am not sure that his explanation explains it. I think that it has not been explained at all. We all agree in feeling that the spinal cord in that case could not have been completely divided, although the statement in the paper is that the cord was divided, that the ends separated by a considerable interval, that this was seen by the operator and his assistants, that the ends were trimmed and sutured, and that some function was restored. It is quite an unaccountable case.

I would like to take issue with Dr. Murphy on one point, and that is on the question of spinal concussion. I am very decidedly in a class with those who do not believe in spinal concussion as a condition, but simply as a mode of injury, and a slight one at that. Spinal concussion is the same as cerebral concussion or as concussion of the ulnar nerve at the elbow. If one bumps his funny bone against something hard there is a momentary disability and sensory disturbance, although there is no laceration, no disintegration, no hemorrhage, only a transitory disturbance. If a man sustains a severe concussion of the spinal cord, what is the result? Immediately, or after two or three days or a week, there is some evidence, more or less, of some affection of the spinal cord or of his nerves, or of something else, whether functional or organic, which produces paraplegia. The question is, is it hysteria, hemorrhage, inflammation? Why call it concussion? Because that means nothing except a mode of injury. In the case reported by Dr. Murphy I would not attempt to make a diagnosis, but I would very much rather try to explain the symptoms on ordinary pathology, because pathology of the nervous system is very much like the pathology of any part of the body. The case was either myelitic, hemorrhagic, degenerative, or functional.

Dr. Julius Grinker:—Dr. Murphy has presented this subject in a very able manner, covering the ground thoroughly. He told us about the neuron theory, about the regeneration of nerves. There is no unanimity of opinion as to how nerves regenerate. Dr. Murphy believes in the neuron theory, but in the course of his remarks he referred to autogenetic regeneration, and said that the reason we do not get regeneration in the spinal cord is because the neurilemma is wanting in spinal tracts. It appears to me that he has laid a little too much stress on the neurilemma, as the tissue concerned most in regeneration, and he proved this later by emphasizing the importance of bringing the axis cylinders closely together, end to end. He makes this a special point, and insists that they must be ap-

proximated just as end-to-end approximation is done in bone surgery. It would appear, then, that, unconsciously perhaps, he has slightly over-estimated the importance of the neurilemma in regeneration, and has not paid due attention to the rôle of neuraxones from above in the regeneration of nerves.

He has referred to experiments of Ballance and Stewart, and has taken it for granted that these experiments on animals can be applied to the human being. I believe that Ballance's experiments have one fallacy, namely, that he has not positively excluded the possibility of union of the axis-cylinders from neurons not subjected to his experiments but yet present in the severed tissues, which may have eventually united and thus caused restoration of function. He has not proven that regeneration has taken place from below without very important aid from above.

The case of Hart has been mentioned as a case of union of the cord. It was found, however, that the dura on one side has not been disturbed. It is not true, as some have quoted it, that the cord was completely severed; the dura on one side being intact, some of the nerve strands were preserved, and any return of motion that has taken place may have occurred through these preserved fibers.

Fowler of Brooklyn reported another case of suture of the cord, and he critically refers to Hart's case, in which he denies that union had taken place. Although there was no union in his own case, there was slight return of sensation, which he ascribed to the persistence of some tissue. Admitting that no successful case of union of the severed cord in the human being has as yet been recorded, we must all agree, regardless of the views we hold as to the neurilemma being the sole or principal cause of nerve-regeneration, that complete severance of the cord is an irreparable injury.

In speaking of spinal surgery, Dr. Murphy has intentionally left us to fill in everything. He has laid down the correct dictum, that where complete severance of the cord has taken place, do not interfere, but in complete separation, operate. I believe he would not have gone to the trouble of mastering the many details in the neurology of the cord if he did not intend to do rational surgery of the cord. The great field for surgery of the cord is in injuries to the cord and in tumors, and even here we must not operate if we have symptoms that lead us to infer that the cord has been completely destroyed.

A complete loss of the reflexes, complete paraplegia, absolute loss of sphincteric power, absolute anesthesia, and trophic disturbances, such as bedsores, are against a possibility of improvement, and I take the stand to-day, after having seen a number of unfortunate cases, that if there is one sign left to indicate that destruction is not complete, operate in every case, even if you do not see your way clear to perfect restoration of function. We are giving the patient the only chance for improvement, and incidentally we learn something about the surgery of the spinal cord..

Drs. Church and Patrick have deservedly emphasized the value of sensory symptoms.

In a case seen quite recently, only by means of accurate sensory examination was determined the exact level of the cord where operative interference had to take place for a tumor of the cord. The patient was completely paraplegic and had absolute anesthesia up to the level of the distribution of the tenth dorsal segment and incomplete anesthesia somewhat higher up.

Dr. S. C. Plummer, to whom I am greatly indebted for permission to study the case, performed the operation on January 4, and to-day—only 5 days later—there is already some improvement as regards sensation. She feels heat and cold and has some return of sensation for pain. There were present the entire group of symptoms indicating compression of the spinal cord. The onset was a little over seven months ago, with intercostal pain, which radiated into the region of the stomach. She was treated for stomach disease. A very persistent intercostal neuralgia should always be considered suspicious of pressure on the cord. After a few months there appeared paralysis of the left leg, then of the right. Paraplegia developed, sphincter paralysis came on, and absolute anesthesia. The

symptoms were those of sensory irritation and absolute loss of motor function. There was no history of syphilis or tuberculosis. The paralysis was progressive, a sign that the case was one of tumor, which was found opposite the third dorsal vertebra, as had been diagnosed.

We lose precious time in subjecting cases diagnosed as tumor to lengthy anti-syphilitic treatment. I believe that more valuable time has been lost with this than with any other mode of treatment. Gumma of the spinal cord is one of the rarest types of tumor. It is not nearly as common as some other tumors, and yet we persist in subjecting these patients for weeks and months to antispecific treatment.

In conclusion, I wish to join my colleagues in bestowing praise upon the admirable manner in which Dr. Murphy has presented the underlying principles governing the modern practice of spinal and peripheral nerve surgery.

Dr. D'Orsay Hecht:—Dr. Murphy's paper, which bore evidence of extensive neuro-surgical study, would surely attract the attention of all interested in this fascinating field of work and even give encouragement to a certain group of neurologists who are still a little sensitive and shy about subscribing to the brilliant (?) achievements in nerve surgery. When results are so entirely lacking in uniformity, there seems to be much justification for pessimism.

I dare say that if we had been privileged to hear the entire paper, Dr. Murphy would have touched upon the recent clinical reports of cases by Taylor, Pierce Clark and others, and then shown us in how far his would compare with their results. Indeed, it is astonishing to see how boldly this neuro-surgical field has been invaded. Deformities resulting from facial paralysis, anterior poliomyelitis, the brachial birth palsies and infantile cerebral hemiplegia have in some instances been well overcome and patients distinctly benefited by the surgeon's proper appreciation of the possibilities of nerve implantation.

With reference to the now famous Stewart-Hart case, I believe with Patrick that the case, as one of complete division of the cord, is discredited by most neurologists, though none doubt the sincerity and candor with which the report was presented by Hart, who holds out the hope that some day the cord may be united.

I should like to call attention to one point which, I think, has an important bearing on cord surgery. Very frequently, much too frequently, has the Brown-Séquard syndrome been taken as positive evidence of section of the cord. That is a grievous mistake. This syndrome, so often spoken of in terms synonymous with hemi-section of the cord, is by no means an indication of such an accident and when so referred to may be most misleading. Cases have been reported in which, after four weeks, the entire syndrome cleared up and led to the conviction that contusion and perhaps hemorrhage occurred, but not division of the cord. Such an instance is recorded by Taylor. If, then, more care were taken in the inferences drawn from this one syndrome, it would clear up many of the rather vain efforts at surgical reparation of the cord.

In conclusion, I should like to ask Dr. Murphy whether, when he spoke of end-to-end anastomosis and his endeavor to eliminate, so far as possible, the interposition of scar tissue, he thought that scar formation in slight or even moderate amount interfered with the conductivity of nerve impulses? It is, of course, conceded that a perfect technique in end-to-end anastomosis results in practically no scar tissue formation, but conditions arise where some intervening connective tissue is unavoidably present, and experimental physiologists would have us believe that even under such apparently unfavorable circumstances nerve stimuli can be propagated through the scar formation. Whether clinical experience is in accord with this statement has not, I believe, been admitted.

Dr. Murphy (closing the discussion):—I wish to thank the neurologists for their very generous treatment of my paper. I wish to correct one erroneous interpretation of what I said. In speaking of the diagnostic value of disturbed sensations, I referred to injuries of the peripheral nerves and not at all to those of the spinal cord. In a very able paper in *Brain* by Head, he shows that there is an additional sensation-conducting tract that is not recognized as a regular nerve

channel, and which is very misleading in the interpretations of sensations; there is also great overlapping in peripheral nerve sensation. A woman had a complete brachial severance from a foreign body passing down the side of the neck and cutting off the roots of the brachial plexus outside of the spinal foramina. There was a complete paralysis of motion and tactile sensation, but pain sensation was exceedingly acute, and it was not until after I read Head's article that it dawned on me how this could occur. In reading over the literature you will find that the statement I made is exactly in accordance with facts and not theories; that the interpretation of sensations as manifested in cases reported has been a most misleading element; but do not think that this statement has reference to injuries or tumors of the spinal cord. Not at all. This refers to the peripheral nerves, and in the significance of the lines of thermal, tactile, deep and superficial pain sensations, as well as reflexes, we are fully agreed, as is shown by this chart of sensory disturbances in spinal cord lesions loaned me by Dr. Basso.

With reference to Dr. Grinker's statements concerning the neurilemma: From a surgical standpoint every nerve fiber we know of, and we know them now very well, by the improved methods of staining, is incapable of regeneration if it has no neurilemma. We do not care whether it is the axis cylinder that grows down from above or whether there is a neurilemmic axis cylinder produced. If there is no neurilemma there is no reproduction of the nerve. However, I feel that Kennedy has demonstrated that there is at least an embryonal axis cylinder produced from the neurilemma without reunion of the nerve trunk.

In reply to Dr. Hecht's question as to scar tissue, there is no tissue reunion without the formation of a certain amount of scar tissue; but if you will remember, when we talked about intestinal reunion in 1892, we showed that if we placed the ends of the bowel in close juxtaposition, producing close contact of similar histologic elements, we would have the least interposition of connective tissue in repair. There is always a certain amount of connective tissue, but where that is of the neuroglia type and not ordinary connective tissue the results differ, because the neuroglia is an (ectodermic) epithelial product and does not seem to prevent the transmission of axones as does ordinary connective tissue scars.

I was very pleased that the discussion brought out the order of symptoms. I have laid down in the written paper an order of symptoms which I hope will serve as a guide to operations. When I believe that the spinal cord is completely divided, which is indicated by *immediate, complete annular* paraplegia and analgesia on the same level with absence of reflexes, I do not operate. When a certain time elapses before paralysis is complete, both of sensation and motion, and when reflexes are present, there are reasons for operating, and in my paper I have endeavored to lay down approximate rules for these surgical procedures.

So far as concussion is concerned, I do not consider traumatic concussion in the sense in which it was used for years in relation to railway surgery. I mean concussion of the cells with functional disturbance. We know that following contusions of the cord without division we may have a complete paralysis of both motion and sensation and a restoration of function afterwards, the paralysis being the result of the inflammatory reaction caused by the force of the blow. Time is a very important element in these cases. Often the paralysis is not transverse or is incomplete. In these cases there is a hope for complete restoration of function unless there has been a hemorrhage to which the paralysis was due. After every injury to the cord there is some reaction, but this passes away in time in the cases to which special reference has been made in the paper.

Meeting of Jan. 16, 1907.

A regular meeting was held Jan. 16, 1907, with the President, Dr. George W. Webster, in the Chair. Dr. A. P. Ohlmacher, of Detroit, Mich., read a paper (by invitation) entitled "A Series of Medical and Surgical Affections Treated by Autoinoculation According to Wright's Theory of Opsonins." The discussion was opened by Dr. Ludvig Hektoen and continued by Drs. L. L. McArthur, J. C. Hollister, George H. Weaver, R. W. McClintock, M. Herzog, and the discussion

closed by the essayist. On motion of Dr. L. E. Schmidt, a vote of thanks was extended to Dr. Ohlmacher for his very instructive and interesting paper.

A SERIES OF MEDICAL AND SURGICAL AFFECTIONS TREATED BY
ARTIFICIAL AUTOINOCULATION ACCORDING TO WRIGHT'S
THEORY OF OPSONINS.

A. P. OHLMACHER, M.D.

DETROIT, MICH.

(Abstract.)

A brief review of Wright's theory of opsonins and of the beneficial therapeutic effects of proper doses of "corresponding" bacterial vaccine, or of the autogenous one prepared from the patient's own lesion, is presented. But less importance is attached to the theory than to the practice of artificial bacterial autoinoculation as a therapeutic procedure, which the author regards as Wright's great gift to medical science and to humanity. For Wright has shown how practically all subacute and chronic diseases caused by the pyogenic bacteria, and luckily, too, the tubercle bacillus, can be improved and brought to recovery by small, infrequent doses of the corresponding bacteria.

The author's personal experience in the clinical application of Wright's principles includes a series of cases of obstinate, intractable, or even incurable affections in which the results have been most surprising and, judged by any other therapeutic standard, entirely beyond the ordinary range of possibility. Among staphylococcal affections are included examples of chronic acne (both vulgaris and rosacea), subacute and chronic furunculosis both localized and generalized, axillary adenitis, palmar abscess, impetigo, and a very remarkable case of so-called "rose psoriasis," but what actually proved to be an extensive staphylococcal dermatosis due to staphylococcus aureus. In all of these cases progressive improvement and ultimate recovery has been the rule, together with splendid gain in appetite, weight and spirits. A case of colon bacillus pyuria, cystitis, and pyelonephrosis, with profound sepsis, has been apparently permanently cured by five injections of the autogenous bacterium. Pneumococcus empyema by intercostal puncture and small drainage was brought to a complete recovery in seven days with two injections of the pneumococcal vaccine. A case of genito-urinary tuberculosis with tubercle bacilli and pneumococci in the urinary pus has been progressively improving during the five successive injections of a mixed tuberculin and pneumococcus vaccine.

With subacute and chronic gonorrheal infections Dr. Ohlmacher's work began last August and he has perfected a vaccine from one of several strains of gonococcus which appears to be of wide therapeutic usefulness. The results obtained in such conditions as balanoposthitis, epididymitis, proctitis, ophthalmia, conjunctivitis, vaginitis, and gleet have been most gratifying and unparalleled by any previously established mode of treatment. This consideration applies also to gonorrheal arthritis (gonorrheal rheumatism) in which the specific and highly potent effect of the gonococcus preparation is demonstrated by the immediate and steady improvement of the local and constitutional conditions. In these gonorrheal infections the same gain in tone, weight and spirits as evidenced in staphylococcal diseases was remarked. The address concludes with the statement that in these artificial bacterial autoinoculations we possess therapeutic agents of a specificity and potency exceeding anything heretofore employed in the treatment of disease except possibly the antitoxin of diphtheria.

DISCUSSION.

Dr. L. Hektoen:—It may not be amiss to point out that the principle which underlies therapeutic inoculations in infectious diseases is by no means of recent recognition, although we owe our present interest in this treatment to the work of Wright and his pupils. In support of this statement, I may cite that, in 1833, a German physician by the name of Lutz wrote a monograph in which developed

the idea that all contagious diseases contain in their contagion the materials necessary for their healing. So, you see, the idea was grasped long before, although imperfectly, it blossomed out into actual practical results in the hands of Koch, Wright and others.

It may be proper to call attention to one or two precautions which should be borne in mind when we judge the results of therapeutic inoculations. In the first place, the cases that are treated by this method are, after all, comparatively few and isolated, so that it will take a long time before we can have an adequate statistical material from which accurate deductions may be made, such as, for instance, is the case in diseases like diphtheria. We must not forget that many cases of the diseases that are being treated with therapeutic inoculations not infrequently undergo rapid spontaneous healing. In support of this last statement I may refer to an instance of furunculosis in a physician who, in order to prepare himself for the treatment, thought it best that he should first go home. When he arrived home, in the country, the disease very rapidly disappeared spontaneously. Now, if he had received one single inoculation we naturally would have attributed the healing to the effect of the inoculation. The beneficial results obtained in many instances of tuberculosis must also be judged with the idea in mind that cures occur under a great variety of conditions.

Coming now to our own experience, I speak first of tuberculosis. We began the treatment of tuberculosis according to Wright's method under the guidance of the opsonic index nearly a year ago. During the succeeding time we have had perhaps 15 cases of various forms of tuberculosis under treatment. Two of these cases may now be regarded as cured. One is a case of abdominal tuberculosis; another a case of tuberculosis of the sacroiliac joint, with fistulous tracts. In both of these cases the sinuses have all healed and a symptomatic cure is to-day fully established. These patients have received no other treatment than tuberculin injections at intervals of ten to twelve days, guided by the opsonic index, the doses being one-thousandth of a milligram of Koch's new tuberculin. They were hospital cases. It must be said that in these cases the improvement was synchronous with the administration of the tuberculin, and the general impression obtained by those who have followed the cases is that the treatment has produced marked and beneficial effects.

We have under treatment three cases of urinary tuberculosis. One of these has been under treatment for several months, and there has been marked general as well as local improvement. In this case the tuberculin injections were followed by prompt subjective improvement, by fall of the temperature, by diminution in the frequency of urination, etc. The tuberculosis involved the base of the bladder and the beginning of both ureters, so far as could be determined by examination. Those lesions have subsided, so that at present nothing can be felt. The other cases of urinary tuberculosis have not been under treatment long enough to make any definite statement about the results at the present time.

A case of tuberculous peritonitis has been treated in the hospital with tuberculin inoculations, and there has been marked local and general improvement; he is still under treatment.

More recently we have taken up the study of the streptococco-index in scarlet fever. It has been found that the streptococco-opsonic index pursues a rather typical course. In the beginning of the disease it is somewhat below normal; as the temperature falls it rises above normal, but not very high, four-tenths to five-tenths, and then gradually falls to normal again. When glandular involvement and other streptococcus localizations develop in the course of the disease this is signaled by a fall in the opsonic index, and, as improvement takes place spontaneously or otherwise, the index rises. One or two cases have been treated with streptococcal vaccine, and it seemed as if there was a marked immediate effect upon the glandular infection. But the observations are still too few, having been made only recently, to draw definite conclusions, and all I can say is that we are encouraged to go ahead and shall do so. Take it all in all, it does seem to me that we are bound to go ahead with Wright's treatment, making careful observations,

studying by all means the opsonic index, so that our inoculations may be given at the proper time, always having due regard to the Hippocratic injunction to the effect that the first duty of the physician is not to do harm.

Dr. L. L. McArthur:—I think this subject illustrates beautifully the truth of the statement that we travel in spirals. It used to be said that we traveled in circles, coming back to the same old place; but each time around we find ourselves a little higher.

It was my fortune to be able to secure and utilize the first sample of tuberculin of Koch used in this city. We had at the hospital a case of lupus of the face which had been in the institution nine months, it having been in the hands of my colleagues during that time, and had been through the mill. Nitrate of silver, actual cautery, electrocautery, caustic potash, curetting, were tried, and then, finally, a material which seemed to offer itself as satisfactory for a trial was the new remedy of Koch. This fell into my hands, and was given to this patient one Monday at a clinic at St. Luke's. On the following Monday the ulceration was one-half its former size. On the second Monday I presented the case to the class as cured. Then we thought we had *the thing*; that tuberculin was going to cure all there was to be cured in the line of tuberculosis. One error was, however, soon made clear to us, that this remedy would not cure every case of tuberculosis, and not only would not cure, but would actually do harm, and after we had seen in cases in which it was used for diagnostic purposes extreme prostration, even death, we began to be very cautious as to the use of it because we might kill a patient. Our spiral, however, has made one great circle, and we have been taught through Wright a means by which we can graduate the dose, can give a dose when it is needed, as well as know when it is not needed. This is a great achievement. He has shown us that it is not only efficacious, but must be used in the proper dosage at the proper time. There is a time when you can lower the descending index, or when you can assist in its elevation. I have been much interested in the work of Wright, have kept familiar with his publications, conversing with Dr. Hektoen in regard to them, and was particularly pleased when my associate, Dr. Hollister, came back with the apparatus last summer, so that we might begin work along these lines.

What I have to say to-night is largely in reference to the clinical aspect of the opsonic index and opsonic therapy as applied to tuberculosis. It is applicable to practically all of the infections, but is one which necessarily requires a very large amount of assistance, trained assistance, skilled assistance, and enthusiastic assistance, particularly in the chronic types of infection, such as tuberculosis is, before one can determine the time for the added dose. This will necessitate making various blood counts, stainings, etc., to determine the index, before one can find out the time for the added dose.

In the course of the past three or four months we have had under our care some thirty-odd cases of tuberculosis. The first of these cases were those which had been in my hands or under my care for months and years, and these few under such therapeutic measures as the essayist has recommended have very definitely and decidedly improved. In fact, some of them have been symptomatically cured. Naturally, then, our enthusiasm for a treatment which will cure a case that has lasted for one or two or three years will be great, particularly after being on our charity list and a burden. We must not, however, be carried off our feet by the golden promises this treatment offers, for, as Hektoen has said, we must follow it carefully and systematically in order to come to a judicial decision as to what should be done (exhibiting charts).

By taking for a period the index of a patient and finding it four-tenths of normal, or two-tenths of normal, then giving an injection and finding it not to improve essentially, then waiting a week and starting again, and finding the index rising to normal, and finally above normal, for a healthy individual, one can not help being enthusiastic as to the improvement of his patient if he believes in the theory of Metchnikoff. He will become more enthusiastic, however, if he sees his patient improve, and accepts the statements of his patient as to the improvement.

However, it requires daily observations of the patient's blood, daily collections, and counting of the white blood corpuscles' capacity for taking up micro-organisms, and this can only be done in a laboratory. Therefore, we have before us a need for a subsidy in this work, by the rich, that it may be carried out for us by experts while we are taking care of the clinical side of the equation.

I will pass around some cards which show the dates and actual readings of the capacity of the leucocyte to take up bacteria, as well as the opsonic index over four months of time. A decided gain for us, particularly in case of tuberculosis, is this: No longer is it necessary to give a patient tuberculin in order to make a probable diagnosis in the extremely doubtful cases as to whether there is tuberculosis or not, for by taking some of his blood and testing it outside of the body it is possible to determine whether his index is low or not. It has been our experience, without failure, in every case of positive tuberculosis to find the opsonic index below normal. In no case where we had tuberculosis and a persistent low index in the beginning have we failed to find it rise and bring it above the normal line. This has been demonstrated time and again. It is possible to wash the white blood corpuscle free from its opsonins, so that it is not able to take up the tubercle bacillus, but wet that white corpuscle with opsonic serum and it makes it capable of taking up the tubercle bacillus; if we accept, as the majority of the scientific world have accepted, the fact that phagocytosis is one of the four methods by which Nature effects a cure, when she does effect a cure against an infective process, then we must admit, if we can consistently raise the index, and we know by laboratory methods we can do so, if we are correct in our diagnosis, that the patient's index being above normal, the benefit to that patient is that he is capable of destroying the bacteria that are within the body.

There will be a source of error in regard to tuberculosis when we have mixed infection, and, inasmuch as Dr. Hektoen has shown by pathological examinations that fully 72 per cent. of all cases that come to postmortem have had tuberculosis, or healed tuberculosis, it is quite possible that the opsonic index in those cases was below normal, and the other mixed infection will be the one we will have to search for. If certain patients of the tubercular type do not improve with this treatment, it may not be because the tuberculosis with which they show a low index is affecting them, but the other as yet undiscovered infection. It has not been possible with the work we have done to go into other infections than that of tuberculosis. We are prepared for the gonorrheal infection and are making plans for a report on simply tuberculous and gonorrheal infections in the course of six months from now, and hope to present that report at the forthcoming Atlantic City meeting of the American Medical Association.

I am much interested in the statement that Dr. Ohlmacher has found a particular strain of the gonococcus which is efficient, more efficient than that of the autogenous type in the one or two cases mentioned. I would like to ask him how he has obtained that, and whether in any of the cases of gonorrheal arthritis he has obtained a successful culture from the joint he has aspirated for the purpose of making an autogenous vaccine? For in these infections it is considered generally true that the fluid of the joint is fairly free from the organisms, they are found beneath the synovial membrane much as in cases of purulent urethritis they are found beneath the mucous membrane of the urethra in the submucous tissue.

We can not be too appreciative of the excellent results Dr. Ohlmacher has obtained, and I have somewhat regretted that we have chosen a chronic and more laborious affection to work with than those of the acute type which have served him in such good stead in his practice. I believe we are at the threshold of a great advance, and personally I wish to thank Dr. Ohlmacher for making it known here.

Dr. R. W. McClintock:—I should like to give the results of my experience in handling cutaneous pus infections. I have treated in the last year about eighteen cases altogether; ten of them have resulted in satisfactory clinical cures. One was a complete and absolute failure, and that was a case in which the opsonic index

to begin with was low, and the administration of the first dose resulted in such an aggravation of the symptoms that the individual refused further treatment.

My experience has been along the line that Dr. Ohlmacher has emphasized, particularly that of clinical rather than laboratory determination of the results of the treatment and of the course to be pursued in the treatment. I have carried on my work in this line in the office almost entirely. My implements have been a microscope, hemocytometer, incubator, and centrifuge, practically nothing more. As a rule, I have made three or four determinations of the opsonic index in each case and have depended on the clinical results and clinical picture to tell me the amount of dosage that I should use.

While there can be no question that in the treatment of tuberculosis the advisability of constant laboratory determination is great, I think that this subject, or, rather, this treatment, is too promising, too important to be restricted to those having such facilities at command. I believe that every practitioner, who has ordinary experience with laboratory methods in bacteriology and in making blood examinations, can use this method successfully.

I would like to ask Dr. Ohlmacher whether he has had any personal experience, or knows of the experience of any one else, in regard to the result of using some means of raising the leucocyte count in cases of tuberculosis in conjunction with the use of tuberculin.

Dr. M. Herzog:—I would like to refer to one point which has been brought out, and it is well for us to remember it, namely, that the opsonins do not act upon the leucocytes, but act upon the bacteria, making the bacteria susceptible to being taken up by the leucocytes. So by opsonic index is meant a relative average figure which expresses how many bacteria are taken up by the leucocytes.

The statement has been made to-night that the opsonic treatment is based upon a general principle which is applicable to all infectious diseases. It seems to me that this is a very bold statement. We ought to remember the time when diphtheria antitoxin was first brought out. It was then believed that the principle was applicable to each and every infectious disease, and we know to-day that the principle of a soluble antitoxin against a soluble toxin is practically applicable only to diphtheria and possibly to early cases of tetanus. The principle of the opsonic treatment depends upon how much opsonin can be formed and how much opsonin can be taken up by bacteria, and how many bacteria can then be taken up by the leucocytes.

One of the co-workers of Dr. Hektoen, two nights ago before the Chicago Pathological Society, showed that virulent pneumococci do not take up any opsonins, and hence are not taken up by the leucocytes. So we can not be any experimental means, as was shown by Dr. Hektoen's assistant, establish an increased opsonic index for virulent pneumococci, and, in fact, the index for virulent pneumococci is zero and can not be increased. If that is true experimentally, how can we expect, by injecting a pneumococcus vaccine into the body, to so affect the leucocytes that they will take up virulent pneumococci, when evidently we have absolutely no means of increasing the opsonic index?

It is certainly nothing less than miraculous that Dr. Ohlmacher secured the splendid result he spoke of in the case of pneumococcus infection. I would like to ask him what the opsonic index was in this case?

Dr. Hektoen:—I wish to make the same point that I made the other evening with regard to the question raised by Dr. Herzog, and it is this, that we are, in a sense, over-emphasizing in therapeutic inoculations, the state of the opsonins. We must not forget that when we inject a bacterial vaccine we may and undoubtedly do increase other reactive products in the body as well as the opsonins, and that these other substances, whatever their nature, may have a great and even greater effect upon the infection than the opsonins. In time other methods of estimating the effect of bacterial vaccines besides the opsonic may be developed.

Dr. L. L. McArthur:—In my previous remarks I desired to emphasize the fact that to the surgical mind this question was particularly applicable, because the prevailing common surgical infections are those which are cured in nature by

phagocytosis. We have four general methods by which cures are effected: Those of a bactericidal character, those of a bacteriolytic character, those of an agglutinating character, and those of a phagocytic type. It happens that the staphylococcus, the streptococcus, the tubercle bacillus, the gonococcus, and one or two of these common organisms in every day surgical practice may be the ones in which the phagocyte does the work very largely, and it is the phagocyte and its ability to do work which we stimulate by increasing the amounts of opsonins; but whether it is upon the bacteria in the presence of the phagocyte or not is an immaterial question. Those are the ones that are peculiarly interesting to us in a surgical way, and that led me to go into the work because of my surgical interest in it.

Dr. Ohlmacher (closing the discussion):—The hour is very late for me to do justice to this very flattering discussion. I am certainly under deep obligation to the gentlemen who have participated. Several of them have enlarged on the points which it was quite impossible for me to dwell on in a paper condensed as this necessarily was.

Dr. Hektoen has, for instance, brought out the importance of the work to the pioneers. I am very glad, indeed, to learn from him that a German author hinted at the possibilities of what Wright has now made a practice. I might say in this connection that some of my homeopathic friends have suggested that another pioneer did work a number of years ago in this same direction; and it is claimed that Wright's method is nothing but a modernized homeopathy. (Laughter.)

I was very much pleased with what Dr. Hektoen said concerning the work which has been done in his institution in a preliminary way in the streptococcal infection of scarlet fever, and I feel from the little I have done in streptococcus cellulitis that there is a field of usefulness for opsonic therapy in scarlet fever. I think it important, however, to emphasize at this juncture the necessity of using smaller doses of streptococcus vaccine than seems to be the custom. Some one has recently reported the use of what seems to me an enormous dose of streptococcal vaccine in scarlet fever. I think a good many mistakes have been made in connection with the treatment of acute pneumonia by pneumococcus vaccine in which the dose has been too large. It illustrates this tendency, the danger of which Wright plainly points out.

Dr. McArthur and his associate (Dr. Hollister) have very kindly brought out in considerable detail clinical confirmation as to the good results from opsonic therapy in connection with tuberculosis. As I said, my work in this direction was preliminary. It has scarcely begun. I was slow in obtaining the T. R., and while I have not recited all of the cases I have treated, my work has not been so extensive as that which Dr. McArthur and Dr. Hollister have reported. As to tuberculosis, I am sure the taking of the opsonic index is a matter of more importance than in connection with some other infections. On the other hand, the tuberculo-opsonic index of tuberculosis is more difficult from a technical standpoint.

As to the results obtained, considering the difficulty of making an emulsion of the tubercle bacillus and in comparing results from the various emulsions, I have not felt entirely secure. Nevertheless I have treated several cases, and one of them particularly, a case of urinary tuberculosis, with progressive betterment. Another case of diffuse pulmonary tuberculosis has responded, up to the present time, most satisfactorily to five injections.

Dr. McArthur's graphic illustrations of the fluctuating opsonic index serve to bring out additional points of interest. They are duplicates of what Wright and his associates show in the various clinical articles they have published.

An autogenous vaccine is the best, as a rule, if we can obtain it; that is, the germ from the patient.

Some one raised the question as to the method we employ in making such a vaccine. This, as I have said, has been fully explained by Wright in his various publications. The explanation has been reproduced in an excellent manner in an article by Dr. Hollister, recently published in the *Journal of Surgery, Gynecology and Obstetrics*. This article is among the first American contributions to

the technical side of opsonic therapy, as applied clinically, and is illustrated by a number of drawings, making the subject matter, it seems to me, very clear indeed. It would be worth while for each one of you who is interested in this subject to read and study this article.

Dr. McArthur inquires about the strain of gonococcus. The particular vaccine I am working with was obtained from a strain that I have had under cultivation ever since a year ago last September. Those of you who have worked with the gonococcus know what this means—the difficulty of keeping so long alive a strain of this rather elusive organism. I have succeeded in keeping two strains for that period, one of which gave an effective vaccine, and the other not. I have worked with more recent ones, one having been isolated for a period of six weeks, but it did not give satisfactory results; and, finally, two or three times I have obtained the gonococcus from the patient and reintroduced it without the good effects of the older strain. Whether the adaptation of this particular strain to the medium has something to do with its success in making a vaccine I am not sure. But I do know (and I have learned it to my sorrow) that the gonococcus is an organism which excites a tremendous reaction when injected in the form of a vaccine. I had some unpleasant experience in my early work, and I think it is possible that the somewhat reduced virulence of the strain from its long environment on artificial media may have something to do with its being so attenuated that it can be used in a sufficiently large dose to make an effective vaccine.

Dr. Hollister has brought out a number of points of additional interest, and those that were mentioned in connection with his experience in tuberculosis I appreciate especially. He belongs, by the way, to that rather small group of American medical men who have been fortunate enough to have seen at first hand the results which Wright has achieved in London. It requires, really, such an experience as this to fully impress physicians with the reality and importance of this work. One gentleman, in discussing a paper of mine last week, said it sounded like a chapter from the Arabian Nights. It has been satisfaction to have come in contact with a physician who spent two weeks in Wright's laboratory last summer, and from him I received an impetus to stimulate a growing enthusiasm and to overcome that conservatism which all of us feel in the face of a new announcement. But you should remember that the report which Dr. Hollister brings back from Wright's laboratory is practically a duplicate of what other medical men have brought from that institution. Wright's work has been so thoroughly recognized at home that he was this summer knighted in recognition of it. His laboratory is really a clinic in which from 30 to 60 patients report three times weekly for treatment, and especially striking are the results obtained in cases that are pronounced incurable by many of the specialists in England. When you consider these things you will, perhaps, partake somewhat of the enthusiasm that animates those of us who have in a small way reproduced Wright's work.

I wish again to impress the fact that the opsonic valuations are not imperatively necessary—at least, in the common acute, subacute and chronic infections. In tuberculosis it is more important. I would not have any practitioner, competent otherwise by laboratory training, hesitate to use bacterial vaccines because he cannot make a sufficient number of opsonic determinations. This, I have learned, is Wright's own view concerning staphylococcus infection. When we have chronic acne we have perforce a low staphylo-opsonic index. When the patient's lesions are aggravated we have a negative phase. When the lesions improve and the general condition improves we have a positive phase, and whenever temporary improvement abates somewhat it is time to intervene. I have found some patients who seemed to learn self-consciously that these fluctuations occur and they often report for treatment spontaneously. As to the interval between treatments, I think seven to ten days may be taken as an average for the ordinary subacute and chronic infections. For tuberculosis I am quite convinced that Dr. Hollister is right when he says the injections should be made at shorter intervals.

Dr. Herzog raises the question as to how the pneumococcus vaccine acts. Of

course, that question is at the foundation of the theoretic discussion of opsonic therapy, and it cannot be answered to-day. Personally, I do not feel that Wright's theory of opsonins explains wholly the phenomena that follow therapeutic inoculation. I think, as Dr. Hektoen has suggested, we will find other substances besides the one we are now pleased to style opsonin that are important in this connection. But let us not hesitate to give humanity the benefit of this new method of treatment because we do not know how the pneumococcus vaccine acts on virulent pneumococci. Remember, for many years we did not know why quinin cured malaria, and up to the last year we did not know because the parasite was not discovered, why mercury cured syphilis. Nevertheless, we have for many years empirically employed these remedies very much to the benefit of suffering humanity, and I make this kind of plea concerning the adoption of opsonic therapy. Let us not, because we cannot satisfy all theoretic considerations, hesitate to adopt Wright's method of therapeutic inoculation.

COLES COUNTY.

The Coles County Medical Society met in the Carnegie Public Library, Charleston, with the President, Dr. H. B. Vanatta, in the chair and Members McDonald, Bennett, A. T. Summers, Zeppin, Perkins, Edmund Summers, Craig, Freeman, Coultas, Bell, Fry, Bryan and Ferguson present.

Thomas A. Bryan of Lerna and Drs. W. J. Carter and James G. Baker of Mattoon were elected members.

Dr. R. J. Coultas of Mattoon read a paper on Disease of the Maxillary Sinus, detailing the elective operations for the condition as well as its palliative treatment. The paper was discussed at length by Drs. Fry and Iknayan and met with general approval.

Dr. Cleaves Bennett of Mattoon read a very instructive paper on Catarrhal Cystitis, paying especial attention to the clinical phases of the disease. It was discussed by most of the members present and many interesting features brought out.

Dr. Ferguson offered the following resolutions for the suppression of surreptitious advertising and unsolicited newspaper notices of professional work done and moved their adoption, the motion being seconded by Dr. Coultas.

RESOLUTIONS ADOPTED.

The following resolutions were unanimously adopted by the Coles County, Illinois, Medical Society on Jan. 8, 1907. They are designed primarily for the suppression of surreptitious advertising, and are respectfully submitted for your consideration:

THE RESOLUTIONS.

WHEREAS, The frequent appearance in the columns of the local press of the names of physicians in connection with surgical or other work done amounts—whether with or without the cognizance of such physicians—to an advertisement; and,

WHEREAS, Such publicity, being in opposition to the spirit of the Code of Ethics of the American Medical Association, adopted by this society as its standard for observance, is demoralizing, in that it has a tendency to create distrust and lack of confidence among members; therefore, be it

Resolved, That it is the sense of this society that such newspaper notices should be curtailed to the lowest possible limit. With this end in view, be it further

Resolved, That on behalf of the society the secretary be and hereby is instructed to forward a copy of these resolutions to every newspaper in the county and to respectfully request the editors thereof, in the future, not to use the names of physicians in connection with their professional work or in any other way which might give the person so mentioned undue prominence; and that it be further

Resolved, That the secretary and board of censors be and hereby are instructed to collect such notices as may from time to time appear and read them at the subsequent meeting of the society, in order that the members so involved may have an opportunity to explain, and, when culpable, receive such censure as the society may deem just.

O. W. FERGUSON, *Secretary*.

A lengthy discussion, principally in favor of the resolutions ensued, the consensus of opinion expressed being that these matters are largely in the hands of the individual physician and can be controlled if desired. The resolutions were passed by unanimous vote.

H. B. VANATTA, *President*.

O. W. FERGUSON, *Secretary*.

DE WITT COUNTY.

The De Witt County Medical Society met January 8 in the County Court Room. The attendance was good, and Drs. Vandervort and Fulwiler of Bloomington and Dr. McLean of Marva were also present. Dr. Vandervort read an excellent paper on Rectal Diseases, which was well received and fairly well discussed. Dr. Campbell opened the discussion on Pneumonia in Children and claimed the disease was often overlooked, and even in the well-developed disease the symptoms were in no sense distinctive. He referred to the cases of Acute Suffocative Catarrh and said that in those cases ammonium chlorid was not good. Three objects were to be met: 1, Rid the lung of the secretion; 2, prevent the pouring out of any more exudation; 3, stimulate the patient until the crisis is past. In the first ipceac was indicated, in the second atropin, and in the third strychnia. Inhalations of hot steam were of marked benefit. This brought out a keen and interesting discussion in which all present took part.

A communication was read from Dr. McCormack relating to insurance fees, and a committee was appointed to interview every doctor in the county on this subject, as well as the subject of pauper contracts, and report at our next meeting. Dr. George J. Edmons said the Medical Defense Committee of the State Society instructed him to say that if any member of the society got into trouble to report the same to him. A motion prevailed that R. A. Lemon of Clinton be selected as the attorney for this society.

A. F. CAMPBELL, *Secretary*.

HANCOCK COUNTY.

The Hancock County Medical Society met at Mason Monday, Jan. 7, 1907. The following program was rendered: Paper, Rheumatism in Children, Frank M. Fuller, M.D., Keokuk, Iowa; discussion by Drs. Roth and Tote. Address, Acute Obstruction of Bowels, George M. Jones, M.D.; discussion by Drs. Roth, Fuller, Parr. Address, Some Conservative Surgery of Female Pelvic Organs, by L. B. Dorsey, Keokuk, Iowa; discussion by Laforce, Seroggs, Jones and Fuller. Dr. S. M. Parr reported a case of intestinal obstruction.

Drs. J. E. Camp and F. O. Pershing were elected to membership. The applications of J. Toton Johnson, S. E. Motye, B. Kelley, Charles Wiekens, O. E. Hutchins and S. L. Minnard were reported to the board of censors. A committee consisting of R. B. Roberts, C. L. Ferris and William Blender was appointed to draft proper resolutions on the death of a late member, F. A. Waggoner, who died Jan. 1, 1907, at Boulder, Colo. Members present: Drs. Parr, Callhan, Roberts, Casburn, Tote, Taylor, Miller, Hansen and Blender. Visitors: Drs. Fuller, Roth, Jones, Dorsey, Seroggs, Laforce, Topsy, Hutchins, Johnstone, Matye, Winnard. The next meeting being the annual meeting, it was decided to hold it at Carthage.

WILLIAM BLENDER, *Secretary*.

JACKSON COUNTY.

The regular monthly meeting of the Jackson County Medical Society was held Thursday, Jan. 24, 1907, at 2 p. m. in the Logan House parlors, Murphysboro, Illinois, with Dr. John Keesee, President, in the chair. The following physicians were present: Drs. John Keesee, McAnally, Monroe Etherton, McKinney, Whitacre of Carbondale, Dr. Horstman of Vergennes, Dr. Grizzell of DeSoto, Drs. Ingram, Molz, Ormsby, J. C. Etherton and H. H. Roth of Murphysboro, Dr. Lacey of Williamson County and Dr. Thornton of Franklin County. Dr. J. R. Tweedy of Oraville was elected to membership. The following papers were read and freely discussed: Dr. McAnally read a paper entitled Pauper Practice of Jackson County; Dr. Ormsby read a paper on The Treatment of Pneumonia.

H. H. ROTH, *Secretary*.

JO DAVIESS COUNTY.

The Jo Daviess County Medical Society held their annual meeting in the Woodman Hall, Stockton, Ill., Jan. 24, 1907. Dr. E. M. Bench, President, in the chair, with the following members present: Drs. Stafford, Kolb, W. A. Smith, Gunn, Stealy, Renwick, Tyrrell, Nadig, I. C. Smith, Kaa, Hancock, U. S. Lewis, Gratiot, D. G. Smith, with Dr. J. S. Clark of Freeport and J. G. Wolker of Pearl City as visitors. The society elected Dr. C. W. Melhop of Dubuque, Iowa, F. W. Boots, Hanover, Ill., and A. M. Pond of Dubuque, Iowa, to membership. Very appropriate obituary and resolutions were read at this meeting on the death of Dr. G. E. Miller of Hanover, Ill. The President appointed G. M. Tyrrell and I. C. Smith as a committee to divide the county into entertaining districts, and Drs. Renwick and Stafford as an auditing committee, who reported the Secretary and Treasurer's books correct, with a balance of \$18.72 in the treasury. A motion was made and carried that the dues to members outside the state be \$4.00 and those outside the county, but who are members of other societies in the state, pay \$2.50. The following officers were elected for the ensuing year: President, E. M. Bench; Vice-President, G. M. Tyrrell; Secretary and Treasurer, D. G. Smith; Censors, I. C. Smith, H. F. Gunn, H. B. Gratiot; delegate to the state meeting, D. G. Smith; alternate, I. C. Smith.

Dr. E. M. Bench then read a very interesting paper on Pneumonia. The discussion was opened by J. H. Stealy, who suggested that the ice cap or pillow be employed in the meningeal form and also that he had obtained good results from the pneumococcus serum, repeated and given in 20 c.c. doses. Other remarks on this subject followed by different members. Dr. J. C. Hancock then read a valuable paper and exhibited the specimen of a Symeyioma Malignum, stating that less than 200 cases were reported up to date, and pointed out the importance of watching for this malady and treating it in its incipency. Dr. Stealy, the Councilor of this District, was present and made a few remarks on the insurance fee question and medical defense. An application was read and received from J. S. Clark of Freeport. Elizabeth was selected as the next place of meeting.

D. G. SMITH, *Secretary*.

MACOUPIN COUNTY.

The Maucopin County Medical Society held its first quarterly meeting at Benld, in the parlors of the Benld Business Men's Club. Those answering to roll call were Drs. Wood, Fischer, Matthews and Carr of Carlinville, J. N. English, Gross and King of Gillespie and Pattison of Benld. Dr. F. P. Aubuchon of Dorchester, having presented his credentials with initiation fee to the board of censors, their favorable report being received, he was unanimously declared a member of the society.

Dr. Fischer reported a case of Central Placenta Prævia, which he brought to a happy termination by producing podalic version. Dr. Matthews read a paper on

Proprietary and Patent Medicines. Since the days of Dr. Halderman, a charter member of the State Medical Society, many advances have been made in the preparation of drugs by our pharmaceutical friends. All the isms and pathies have been drawn together with the laudable desire to get therapeutic results. The up-to-date physician in private practice will hold fast to those drugs that are good and use them for his patients' benefit. The proper place for experiments is in the clinic and laboratory. Confine yourself to the official remedies, which are sufficiently large and comprehensive to answer all your requirements.

DISCUSSION.

Dr. Behrens: It is our own fault that our patients use these advertised remedies, because we tell them to take this A. K. tablet for pain. Take this bromidia for your sleeplessness. Take this Glycero-Smith for your cough!

Dr. Louis Behrens of the Washington University Clinic, St. Louis, read an exhaustive essay on Some Considerations Relative to Conveyance, Prevention and Treatment of Consumption.

Abstract.—No one disease has received the consideration that consumption has since the discovery of the etiological factor by Koch in the eighties. The laity shares this general acquaintance, so that we have societies, both lay and professional, devoting time and study, having in view prevention and amelioration, with the ultimate hope that soon consumption's ravages may be markedly lessened, perhaps become as seldom seen and as obsolete as is smallpox. This millennium of total elimination of tuberculosis in Germany and England seems near realization. A 40 per cent. decrease is recorded in ten years, and by 1925 tuberculosis will be classed among those rarities that variola now is. In the United States, with less poverty and more natural resources, we should likewise stamp out this preventable plague. One-tenth of all deaths are due to phthisis pulmonalis, and in St. Louis the percentage is even greater. Prevention is our slogan. The conveyance from man to man by tubercle-laden sputum in 90 per cent. of the cases is an accepted fact. The dried sputum on the bed and carpet are splendid opportunities for dissemination. Spitting in public places should be prohibited. The housewife should know that the feather duster and broom are not the best means of cleaning houses—that the brush and damp rag are sure aids to prevention of disease. Soap and hot water and sunlight are means of destruction of the tubercle bacillus at every one's command. Darkness and dampness, carpets and hangings are its favorable lair. Twitchell found that dried sputum on a handkerchief or blanket would, by inoculation, after seventy days, produce a tubercular lesion. Dried sputum will produce tuberculosis after four or eight weeks.

A diagnosis from sputum examination is the one best means at our command and should be frequently made. The number of tubercle bacilli found is no evidence of the virulence of infection. After consolidation of the lung and cavity formation the physical signs are quite plain, and in some cases the bacilli are hard to find. Benefit from treatment is obtained best by making a true diagnosis before the bacillus is found. The closest scrutiny must be paid to finding the physical signs incident to the closed stage of the disease before the breaking down of the tubercle. The hacking cough, moderate hoarseness, persistent afternoon temperature are suggestive. Physical signs are retarded, respiratory excursions of the affected lung area, asymmetrical dulness after careful percussion and auscultation. A roughened respiratory murmur and a crepitant r le is evidence of inflammatory change in the bronchioles. The old tuberculin test of Koch may be relied upon, with its characteristics of temperature for several days.

The ingress of the economy by the tubercle bacillus is through the respiratory and gastro-intestinal tract. The inhalation method is best understood. A vitiated lung being in a fertile condition for the growth. So with the gastro-intestinal route, being so debilitated that it can not destroy the bacilli, permits the entrance of the unwelcome host to be distributed as miliary tubercles through the body. Foodstuffs, possibly tubercle laden, should receive our attention. The faucial tonsil, so frequently found hypertrophied in the young, is a causative factor; 12

per cent. of these glands are tubercular. The apices of the lungs are frequently infected by way of the fauces which are connected by the lymphatics of the neck. We are all familiar with the general infection that may take place from a broken-down tubercular cervical gland. We should remove unhealthy tonsils and enlarged glands to forestall a further contamination.

Treatment can not be specific or narrow. Unfortunately we seldom see cases in the first stages. How often patients will go for months with the afternoon fever and slight cough and will wait till hemorrhage scares him to the family doctor. Our duty is to examine thoroughly all suspected cases early.

The postmortem table often shows areas of tubercular scar tissue dating back to some decline in health. Many times Nature heals, so do not send your patient away from home to die.

Dr. Trudeau demonstrated, at Saranac Lake, New York, that undreamed-of results could be accomplished in the cure of consumption. In due time New York appreciated his work and established at Raybrook, N. Y., the State Sanitarium for Consumption. Massachusetts followed, selecting Rutland as its location. They report 33 per cent. cures from their open-air tent life with forced feeding. Missouri has erected a building and sanitarium at Mount Vernon, Mo., and Illinois is doing splendid work in her tent colony at Ottawa. Sanitarium and tent life can be adopted in our back yards. Macoupin County has many advantages to carry out this treatment. Fresh air with sloping hills for drainage are found in every section, not to speak of foodstuffs necessary to carry out a treatment conducive to cure. In St. Louis space will not permit adequate back yard facilities. The open window has to be utilized to carry out the fresh-air idea.

We must build up the person's resistance through food. The bitter tonics are indicated to stimulate the functions of the stomach and liver. The personal idiosyncracies of our patient should be studied and medication should be cautiously used to suit each case.

In the discussion the statistics of public sanatoria were questioned with the idea that treatment is too general. Individual care of patients is lacking and their tastes and idiosyncracies are not considered. Still the patient learns general rules of hygienic living which will be of vital service to him on his return home. Dr. Matthews reported a treatment of a successful case of incipient consumption with the hypodermic use of neuclein and gold and sodium chlorid as adjuncts to tent life in the back yard, and forced feeding.

The following resolution was unanimously adopted:

Resolved, That we, the Macoupin County Medical Society, in regular session assembled, do hereby urge our Representatives in the present Legislature to consider favorably and pass the recommendations of Dr. Billings and the State Board of Public Charities, to-wit: \$15,000 for the free distribution of diphtheritic antitoxin to the poor outside of Chicago under the auspices of the State Board of Health; second, \$250,000 for the establishment of a farm or colony of epileptics; third, \$150,000 for the establishment of a state sanitarium for the treatment of incipient tuberculosis; fourth, that the insane and feeble-minded epileptic dependents be state charges, leaving the county only the care of paupers.

The society heard an able essay by Dr. Wood—The Rapid Diagnosis of Diphtheria for the General Practitioner.

Abstract.—The necessity for the early diagnosis of diphtheria is self-evident. A failure often results in early involvement of the larynx, frequently ending in death of the child. First obtain a culture from the throat of the patient with a swab of cotton on a platinum needle. A swab may be made of a test tube, a wire bent with a loop at both ends, just long enough for the tube. One end of the wire is wound with wick of asbestos as a swab. The other end is a stopper. This apparatus can be sterilized and used repeatedly. The next step is to obtain tube-slants of Loeffler's blood serum. Then smear a cover-glass with the swab from the throat for immediate staining with methylin blue and examination in your laboratory for the germs. The serum slant must be then incubated for twelve hours by placing the tube in the inside vest pocket next to the body at blood heat,

the doctor acting as his own incubator. If the diphtheria bacillus is present there will appear a yellowish-white glaze growth, with white colonies here and there. The smears from this culture will show under the microscope—characteristic bacilli with long-beaded threads and dumb-bell enlargements at each end. The advantages of this method are a quick diagnosis, and the general practitioner becomes expert in his knowledge as to the identification of the diphtheria bacillus. The practitioner may also keep a check on his diagnosis by sending specimens to the state laboratory for examination.

The society then adjourned to meet in Carlinville the fourth Tuesday in April.
DR. JOHN PALMER MATTHEWS, *Secretary*.

MORGAN COUNTY.

The Morgan County Medical Society held its regular meeting at the Public Library, Jan. 10, 1907, at 8 p. m. President E. L. Crouch in the chair. Sixteen members were present. Minutes of last meeting read and approved. Dr. R. F. Windsor elected to membership of society. Dr. Black presented a case of ovarian cyst, the contents of which appeared like fecal matter and contained strands of hair, some of which were two inches long. Dr. Hairgrove reported a case of pelvic abscess which was evacuated three times; the last time fecal accumulations were found. Dr. Josephine Milligan read the paper of the evening on "Notes on a Series of Obstetrical Cases," accompanied by an elaborate series of charts.

Discussion opened by Dr. Black, who presented a specimen of a child in utero, mother having died with heart disease during confinement; also a specimen of large uterine fibroid, which resembled a case of pregnancy, and was so diagnosed for a time, and lastly, a specimen of uterine fibroid, the woman dying from exhaustion by trying to expel tumor. In this case doctors differed greatly as to whether it was a tumor or a pregnant uterus. Dr. Hairgrove discussed the difficulty of a diagnosis in pregnancy, but thought it might always be made with a close examination.

The secretary read a communication from Dr. McCormack in reference to the increase of life-insurance fees; discussed by Drs. Baker, Black and Hairgrove. Dr. Black moved that the chair appoint a committee of three to look into the matter and report at next meeting. Drs. Hairgrove, Baker and Duncan were appointed on committee. Several committees were named: Public Health and Legislation, Drs. Black, Baxter and Norbury. Library Committee, Drs. Pitner and Dewey, in connection with Dr. Black. Tuberculosis Committee, Drs. Hairgrove, Hardesty and King. Dr. Hairgrove stated that Dr. Evans of Chicago intended to address the Woman's Club on Tuberculosis, January 12, and wished for the Morgan County Society to attend. On motion made by Dr. Black, the officers of the society acted as a committee to arrange for an address by Dr. Evans, while he was here, on Medical Defense. Papers for February 14: Dr. T. A. Wakely, Preventive Medicine. Dr. P. E. Hofmann, The Kidney of Pregnancy.

ALLEN M. KING, *Secretary*.

NOTES ON A SERIES OF OBSTETRIC CASES.*

JOSEPHINE MILLIGAN, M.D.

JACKSONVILLE, ILL.

In looking over my histories for a series of obstetric cases the first impression is that insufficient records were taken. It is only by a definite routine carefully carried out that all the points in a case will be noted. Proper record keeping does not come easily and naturally. A system has to be built up by experience. Perhaps nothing is more helpful to better methods of history taking than to have the humiliating experience of referring hopefully to records and finding them inadequate. For some time past I have used the device of an obstetric card to glance at when writing the history of a case to help in putting down all the facts. A card that can be made more or less elaborate as the individual case

* Read before Morgan County Medical Society, Jan. 10, 1907.

requires. There is nothing new or original claimed for the care of obstetric patients. I simply give the results of the work.

In the care of these obstetric cases there are two points in which a better asepsis has been attained; first, by making a diagnosis of the position by external manipulation instead of depending on the internal examinations. The only cases in which the diagnosis can not be made by the external examination are those in which the abdominal walls are very rigid or fat and if unusual positions exist. Lessening the number of internal examinations makes a corresponding lessening of the dangers of sepsis to the mother; practically I find that now the diagnosis is made by external examination and that the pelvic examination is, if made at all, made in order to judge how soon the doctor's services will be needed. To decide on the extent of cervical dilation by the character of the pains is sometimes misleading, the patient unintentionally often deceives by stating that the pains are expulsive, so it is usually a saving of time to examine locally to find out the amount of dilation of the cervix.

The second way in which a better degree of asepsis has been attained is in the wearing of gloves when making a pelvic examination after labor begins and in delivery. It has been said that if a doctor can not keep his hands clean he can not keep his gloves clean, but it is a much easier task to keep smooth nailless gloves clean than hands. Practically even in the poorest home it takes but a short time to boil water in a tin or granite pan to sterilize the vessel, then boil the gloves in it and in a few minutes have them ready to put on. After using gloves the first few times they are no hindrance to the sensitiveness of touch. When I first began using them I thought I could not be quite so sure of what I felt, but now I think that was purely mental, for the thin tissue spread smoothly over the examining finger can not take anything of value from the tactus cruditus.

In looking over the records of the series of 102 cases I find that 38 were primiparæ and 64 multiparæ. We will consider the primiparæ first. Fifteen were confined in the hospitals and 23 in the homes. Two hours was the shortest time of labor and 48 hours the longest. The time of labor was not recorded for 10 cases—the average for 28 cases was 19.8 hours, a somewhat longer time than the average given in the books. The urine from these primiparæ showed in 19 cases no albumin; in 6 cases a trace of albumin; in 12 cases there was no report; in one case the faintest trace of albumin. In this case the specific gravity was 1002.4; $4\frac{1}{2}$ gallons of urine in 24 hours. On careful inquiry I found the patient drank three gallons of water daily, having been imbued with the idea from some hydropathic friends that water was the best thing that she could take. The routine number of examinations of urine is five—there are often more, never less—if the patient is under my care through pregnancy.

The presentation in 35 of the 38 primiparæ was head. One case was breech and two cases were not reported. There were 14 cases of the L. O. A. position, the diagnosis made before labor and confirmed at delivery. There were three R. O. A.; diagnosis made before labor and turning so that at delivery they were L. O. A. There was one L. O. A. diagnosis made before labor and at delivery had turned to R. O. A. There were seven cases of R. O. A. diagnosis before labor and confirmed in R. O. A. position at delivery. There were three cases R. O. A. positions at delivery and five cases of L. O. A. positions at delivery. There was one breech and one brow turned by manipulation to face.

The number of pelvic examinations made in each case of obstetrics increased with the distance of the doctor's other work from the patient. For four patients there was no internal examinations; for nine patients there was only one examination each. In 17 records there was no report of the number of examinations. In 17 histories the perineum was torn so as to require one to four stitches. In five histories the perineum was torn to the sphincter. There were no tears in 12 cases; by no tear is meant no tear to warrant a stitch. A tear in which one can lay the little finger always calls for stitches. I doubt if a

primipara is ever delivered without any break at all, and in the reports of after examinations only one perineum is given as perfect.

Of the 38 primiparæ 27 nursed their babies. Five both nursed and fed artificially the children because there was insufficient breast milk. Five children were fed from the first. Fourteen patients had sore nipples and one breast was lanced. Only seven had normal nipples with no soreness. Gloves were worn in 19 cases both for examinations and delivery. The records of after examinations are the most inadequate of all my obstetric notes. The instructions are that every such patient shall present herself at the office for a pelvic examination six weeks after delivery. The cost of the same to be included in the fee for delivery, but of the 38, 22 are not reported. The examination is of the perineum, walls of vagina and cervix and to see if involution is good. In eight histories the report was good, in two fair and in one excellent and one perfect.

In 23 of the 38 cases, measurements by the pelvimeter of the pelvis were taken. The largest measurements were for a woman whose labor lasted 26 hours. The distance between her A. S. S. was $10\frac{1}{4}$ inches; between the crests, $11\frac{1}{2}$ inches, and the external conjugate was $8\frac{1}{2}$ inches. Four patients had an external conjugate of only $6\frac{1}{2}$ inches. One of these was a forceps case. The patient presenting the smallest measurements had a normal labor of 32 hours' duration. The measurements were A. S. S., $8\frac{1}{2}$ inches; crests, $10\frac{1}{2}$; external conjugate, $6\frac{1}{2}$. These figures certainly show that the measurements of the bony pelvis are not the only factor in difficult delivery.

There were 12 histories showing a rise of temperature. Five of these were due to trouble with the breasts; one to hemorrhage; the uterus had to be held down for two and a half hours, and there was probably some infection in this case; the temperature ran to 103 degrees. One patient had a temperature of 104 degrees that was immediately relieved by emptying the bowel. Three of the forceps cases had temperatures running from 100 degrees to 101.3 degrees. One forceps case had no temperature. One patient had a temperature of 105.5 degrees due to an unknown infection; there was almost no tympanitis. The labor had lasted $26\frac{1}{2}$ hours and was very severe. The baby died, cause known; mother recovered. One patient had a temperature beginning on the fourteenth day that ran a few days. The family called it malaria. As I could find no cause for it, it went by that diagnosis.

Peculiarities noted in the primiparæ were as follows: Cord was once around the neck in four cases. There was one battledore placenta, and one placenta had two entirely separate unequal lobes, what Williams calls placenta duplex succenturiata. The breech presentation baby was lost; the perineum was extremely rigid and the pains were insufficient. The mother was 38 years old. I think the baby might have been saved if forceps had been applied to the after-coming head. I had them ready to use, but as the delay seemed very slight the expulsion was left to nature. To complicate matters the cord was around the neck, and the baby only breathed through artificial respiration and died in two hours. One baby had ophthalmia neonatorum. In another case the mother had suffered from an attack of gonorrhea during the fourth month of pregnancy, but at the time of labor no germs of Neisser were found in the secretions and the baby had no trouble with the eyes. On four patients forceps were used. On the first the labor had lasted 34 hours. The patient was exhausted and the pains were becoming weak. The child's head was large and hard; low forceps made the delivery easy. The measurements were A. S. S., 10 inches; crest, $11\frac{1}{2}$ inches; external conjugate, 7 inches. The second patient on whom the forceps were used the measurements were A. S. S., 9 inches; crest, 10 inches; external conjugate, $6\frac{1}{2}$ inches, quite small. Labor lasted 24 hours; the pains were dying away and the patient was exhausted and the perineum rigid. Low forceps were applied.

In the third forceps history the measurements were A. S. S., $9\frac{1}{2}$ inches; crests, 11 inches, and external conjugate, 7 inches, showing a proportionally small

external conjugate. There was such rigidity of the perineum that after 38 hours of labor episiotomy was done and low forceps applied to aid the weak pains.

In the fourth history the measurements were: A. S. S., $9\frac{1}{4}$ inches; crests, $10\frac{1}{4}$ inches; external conjugate, $8\frac{1}{4}$ inches. The position was brow after turning it to face, chin rotating anteriorly; low forceps were applied. In this case I think time would have delivered the baby after the face presentation was secured had there been sufficient patience on part of mother and doctor.

There was one history of a deformity. The patient had a double uterus and two vaginae. The fetus probably was in the left uterus. The labor was only $13\frac{1}{2}$ hours and quite normal, except that the vaginal septum held back the head and had to be snipped. The day after the birth a classical decidual mass was expelled from the unoccupied half of the uterus.

We now pass to the consideration of the 64 multiparae. Of these 45 were confined at home and 19 at the hospitals. The shortest time of labor recorded was one hour and the longest was 38 hours. The multipara suffering from this long labor reported that her first confinement was extremely tedious; that she was slow in every way and, of course, her labor would be slow. In 40 recorded cases the average length of labor was $9\frac{1}{2}$ hours. The urine was examined from 42 patients. In eight records there was a trace of albumin; in one albumin and granular casts. In this case the baby died on the eighth day; it was artificially fed. In 33 there was no albumin. There were 63 head presentations and one breech. Of the head presentations the following positions were found: In 15 the diagnosis of L. O. A. was made before labor and confirmed at labor. In 10 the diagnosis of R. O. A. was made in pregnancy and confirmed at labor. Fourteen were L. O. A. at labor; six were R. O. A. at labor. In seven the diagnosis of R. O. A. was made before labor and at delivery were turned to L. O. A. One R. O. P. was observed to turn without aid to R. O. A. The labor was of 28 hours' duration. There was one face case at seven months. The one breech case was a deformity. The position was right sacro anterior iliac. There were 23 who were in their second confinement; 15 in the third; 9 in the fourth; 5 in the fifth; 2 in the sixth; 2 in the seventh; 1 in the eighth; 1 in the ninth; and 1 in the tenth. To compare the number of pregnancies in this list with those of Granny Carson, who was the popular midwife of Morgan County in the early days, is interesting. Most of her clients went through from eight to fourteen pregnancies, and a few sixteen.

There was only one local examination made in 21 cases; two examinations in 9 cases; no examination in 2 cases, and 5 cases were born before I arrived. In 27 cases there was no record. There were 19 histories showing that there were tears and 28 showing that there were no tears. In 49 patients the breasts were normal, that is, the children were nursed for the proper length of time. Twelve babies had to have the breast milk supplemented by artificial feeding. Five babies were fed artificially. In two patients the breasts were lanced. Twelve had sore nipples. Gloves were used with 29 patients both in examinations at the time of labor and at the delivery. Among the 64 there were six that had a temperature of over 101 degrees. Two were breast cases. One had phlebitis with a maximum temperature of $102\frac{1}{2}$ degrees. One had pneumonia that brought on labor at the eighth month. The maximum temperature was 103 degrees; both baby and mother lived.

The sixth case the mother had cervical and vaginal ulcers discovered during the early months of pregnancy, cultures taken at six and a half months of pregnancy showed the streptococcus. The patient at the seventh month developed a septic pneumonia, aborted and in six days died of septic infection that postmortem showed ran through the chain of lymphatics from the ulcers to the peritoneum.

The peculiarities noted were in one, a v-para, at the seventh month diagnosis of hydromnios was made; the history given was that in the previous pregnancy there was an excess of liquor amnii. At this time the abdominal distension was distressing. The measurement of the abdomen at umbilicus was 41 inches. The breathing was interfered with and there was complaint of bearing-down

pains. The 24-hour urine was only one pint in quantity, showed albumin and a few granular casts. The treatment consisted of calomel twice a week, salts every morning, and no red meats in the diet. The condition improved markedly; the urine increased in quantity; the labor was normal, there was large amount of liquor amnii, and though the trace of albumin still exists the mother's milk is manifestly a good sufficient food for the baby.

In five confinements the cord was around the neck once. In one case the cord was very long; it was twice around the neck and once around the body. In one case there was a knot in the cord. In another it was around the foot. In one patient, a multipara, there was a marked division of the recti muscles through which the pregnant uterus protruded with only the thin covering of skin. The labor was normal after lasting 11 hours. One patient had a cervical polypus on the anterior lip. It did not interfere with labor.

Two of the children were deformed; one slightly. It had a talipes equino valgus of the left foot. The second was greatly deformed; it was a breech case; there was a marked hydrocephalus and a spina bifida of the lumbar vertebrae. The child was born dead. One mother, the case of sepsis, had a bicornate uterus and had a twin pregnancy. One child in each horn. The diagnosis was made before death and confirmed postmortem. One child lived; the other could not be made to breathe.

SANGAMON COUNTY.

The Sangamon County Medical Society held its monthly meeting Jan. 14, 1907, at 8:30 p. m., in the Lincoln Library. The following men were elected to membership: Dr. George T. Palmer, Springfield; Dr. G. B. Lutyens, Buffalo; Dr. Robert Flentje, Buffalo, and Dr. J. M. Shearl, Sherman. The application of Dr. James Rigg of Mt. Pulaski was held over until permission from the society of the county in which the applicant resides was obtained. The society was instructed to have 300 copies of the constitution, by-laws, fee bills and list of members in good standing printed in pamphlet form. A communication from Dr. Evans of Chicago was read to the Society relative to the Physicians' Defense Fund. Dr. Kreider presented the following amendment to the by-laws: That four (4) be substituted for three (3) dollars in Section 1 and Section 2 of Chapter 5 in the existing by-laws. Laid on table for next meeting. Moved, seconded and passed that the Chair appoint a committee of three (3) members to investigate the professional ethical standard of new physicians entering the county and to prefer charges against those members of our profession now residing in the county who do not conform to the code of ethics of the American Medical Association.

The papers of the evening were as follows: Etiology and Classification of Acute Nephritis, Dr. Colby; Pathology of Acute Nephritis, Dr. Castle; Symptomatology and Diagnosis of Acute Nephritis, Dr. L. C. Taylor; Treatment of Acute Nephritis, Dr. Stericker. Discussions opened by Drs. Griffith, Munson, Spicer and Nelson and later participated in by all those present. Eighteen members were present.

CHARLES L. PATTON, *Secretary*.

VERMILION COUNTY.

The Vermilion County Medical Society met February 11 at 8 o'clock in the court house at Danville. This was a public meeting on Tuberculosis and about 125 of the laity attended, and from the close attention and expression of opinions following the meeting it is evident that much good will come from the effort of the Society in arranging such a meeting.

Dr. H. F. Becker opened the meeting, followed by Mr. W. R. Jewel, Sr., who in a short address on Tuberculosis from the standpoint of the laity introduced Dr. George W. Webster of Chicago, who gave an exceedingly interesting and appreciated talk on the subject in a way to thoroughly impress the laity. Dr. J. W. Pettit of Ottawa discussed in a comprehensive way the practical treatment of

tuberculosis and quite successfully dispelled the idea from the mind of the laity that the disease is incurable. The Society endorsed the Nurses' Registration Bill now pending. The following physicians were elected to membership: Drs. R. N. Lane, F. C. Dickson and N. C. Morrow of Danville, H. E. Baldwin of Jamaica and W. W. Collins of Oakwood. E. E. CLARK, *Secretary*.

WABASH COUNTY.

The Wabash County Medical Society held a most interesting meeting on January 22. The question of medical insurance examination fees was considered, and the society adopted a resolution sustaining the position taken by many other societies which regard a \$5.00 fee as fair and just remuneration for such examination. It is intended that the society shall take action towards a practical and unanimous consideration of this matter, which we hope to do in the near future. The arrangement provided by the Illinois State Medical Society to protect against damage suits was endorsed, and all of the members paying the regular fee for this purpose. The President appointed Dr. J. B. Maxwell as a member from this county on the legislative committee. Dr. R. S. Manley of Mt. Carmel was admitted to membership. The following were elected officers for the ensuing year: Dr. R. J. McMurray, St. Francisville, President; Dr. S. W. Schneck, Mt. Carmel, Vice-President; Dr. R. S. Manley, Mt. Carmel, Treasurer; Dr. G. C. Kingsbury, Mt. Carmel, Secretary.

Dr. A. J. Knapp of Evansville was invited to present a paper in April on Air Passages and Breathing. G. C. KINGSBURY, *Secretary*.

WOODFORD COUNTY.

The Woodford County Medical Society met for its fall session in the Council room of the new City Hall at Minonk, at 10:30 a. m. Oct. 2, 1906. Of the nine active members seven were present. Visitors present were: Dr. Wm. O. Ensign of Rutland, formerly Councilor for the Second District, and Dr. C. E. Chapin of Bloomington, Ill. During the session Dr. Chapin presented a very interesting paper on Chronic Interstitial Nephritis. After its presentation this paper was very earnestly discussed by several members of the society and many questions were asked of Dr. Chapin.

During the meeting the membership of the society increased from nine to seventeen. Surely a good increase. There are only ten more eligible physicians in the county, and we hope we will be able to bring them into the fold during our annual session, which will be held at Eureka, Ill., the first Tuesday in May. The last part of the meeting was the social part, and it was a unanimous opinion that these social events are as necessary to the life and welfare of the County Medical Society as are the scientific programs. JAMES I. KNOBLAUCH, *Secretary*.

NEWS OF THE STATE.

Dr. S. C. Lorton, of Redmon, has located at Shumway.

Scarlet fever is alarmingly prevalent in Rock Island County.

Dr. A. G. Fuller has moved from Breese to Boiee City, Idáho.

Dr. Frank Billings, of Chicago, has recently sailed for Europe.

Dr. Austin E. Palmer, health physician of Morris, has resigned.

Dr. St. Elmo M. Sala, Rock Island, is reported to be convalescent.

Dr. Edwin A. Weimer, Pekin, is reported to be dangerously ill at his home.

Moline has 100 cases of scarlet fever and an unusual amount of diphtheria.

Dr. Jacob Frank, of Chicago, has returned from a trip to the West Indies.

Smallpox is reported from Bradford and Osceola townships, Stark County.

Dr. and Mrs. Joseph R. Waln, Peoria, have gone to Florida for two months.

Dr. Ernest B. Mammen, Bloomington, expects to take a trip to Europe.

Dr. and Mrs. W. R. Armstrong, of Springfield, are spending a month in Florida.

Dr. Henry Richings, Rockford, is seriously ill with inflammatory rheumatism.

Influenza, scarlet fever and diphtheria are reported prevalent in Vermilion County.

Peoria and Canton have been added to the list of towns in which smallpox exists.

Dr. Elmer M. Eckard, health commissioner of Peoria, has recovered after a long illness.

Dr. and Mrs. Noel R. Gordon, Springfield, have gone to San Antonio, Texas, for a month.

Dr. Charles S. Bacon, of Chicago, sailed for a two months' visit to Europe February 13.

Dr. D. S. Conley, Streator, who has been ill at his home for about a week, is convalescing.

The State Training School for Girls, Geneva, is reported to have thirteen cases of scarlet fever.

Dr. Henry G. Schmidt, Elgin, has been appointed physician to a mining company in Torreón, Mexico.

Dr. H. Schmidt has moved from Keyesport to Wisetown, succeeding Dr. Barnes at the last-named place.

The public schools of Humboldt, for the second time this winter, have been closed on account of scarlet fever.

Dr. Samuel L. McCreight of Chicago and family who spent the winter in Los Angeles, has returned to Chicago.

Dr. William A. Evans of Chicago, who has been seriously ill with influenza at Grace Hospital, is improving.

Dr. W. R. Tweedy, of Boulder, has recently lost his wife. Her death was due to typhoid fever and complications.

Dr. Edwin W. Ryerson of Chicago has been appointed attending orthopedic surgeon at the Children's Memorial Hospital.

Dr. Joseph H. Roy, Kankakee, was thrown from his buggy in a collision with a trolley car February 8, and painfully injured.

Dr. Cassius M. Craig, Champaign, has returned home after several weeks spent in a Chicago hospital, where he underwent operation.

Dr. Joseph De Silva has been appointed president and Dr. J. W. Stewart vice-president of the Rock Island County Humane Society.

Dr. Rice, of Cantrall, has departed for New York City for post-graduate study, leaving his practice in the care of Dr. Oliver P. Grant.

Dr. William C. Spannagel, East St. Louis, has been appointed deputy coroner, vice Dr. Henry G. Hertel, who left for San Antonio, Texas, February 1.

Dr. Channing W. Barrett, 100 State street, Chicago, has been appointed a member of the Cook County Hospital staff, vice Dr. R. W. Holmes, resigned.

On January 16, in an injunction suit by the Chicago Union Hospital against the city, the right of the city to regulate the location of private hospitals was upheld.

Catarrhal fever is said to be causing a great deal of trouble among the children of Edgar County, affecting particularly the middle ear and the gastrointestinal tract.

There are about 1,000 cases of typhoid fever in Montreal and the immediate surrounding municipalities. The bad quality of the Montreal drinking water is the cause.

Dr. C. H. McMahan, ex-secretary of the Clinton County Medical Society, has moved from Carlyle to St. Louis, Mo., where he has located for the practice of his profession.

Drs. Winnard and Matze of Warsaw, who have been associated in the practice of medicine for nine years, have severed their connections and each will practice on his own account.

Dr. Samuel E. Munson, Springfield, has been elected president of the Brainerd District Medical Society, to fill the unexpired term of Dr. William E. Guthrie, Bloomington, resigned.

Mr. Glaekin, Cook County, has introduced a bill recommended by Governor Deneen, asking for an appropriation of \$150,000 for the establishment of a state sanitarium for tuberculosis.

The first of nine suits brought against Paul and Frank Zito, druggists, for the illegal sale of cocaine, was decided against the defendants, who are reported to have been fined \$500 on January 15.

A drug store in Chicago, on the West Side, which has been most noted for its illegal sale of cocaine and against which the crusade has been especially directed, has been closed by its proprietor, who says he will not reopen it.

C. M. Hefter, H. J. Minke and R. E. Colson, employed at the Asylum for Feeble-minded Children at Lincoln, have been discharged by Superintendent Hardt for alleged incompetency and drinking while on duty.

John G. M. Appleton was appointed receiver of the Lincoln Park Hospital and Training School for Nurses, 500 LaSalle avenue, by Judge McEwen, of the Superior Court. The action was taken on the petition of Berry S. Henderson, president and stockholder of the institution.

The Polyclinic Nurses' Alumni Association held its first annual reception and ball February 7. The proceeds, which amounted to about \$500, were devoted to the endowment of a bed in the New Henrotin Memorial Hospital now being erected at Oak street and LaSalle avenue.

A concert was given in Orchestra Hall, February 12, by Mme. Ernestine Schumann Heink, Mr. Bruno Steindel, Mr. Ferdinand Jaeger and Mlle. Rosa Zukowskaja, for the benefit of the American White Cross First Aid Association.

On February 18 physicians were for the first time assigned to city ambulance service in Chicago. Sixteen physicians are employed at a salary of \$100 per month. The service is under the charge of Dr. George Hunt of the Health Department.

The heirs of the Spalding estate have made a gift of \$20,000 in memory of Mrs. Jesse Spalding to the Chicago Tuberculosis Institute, to be used as the directors see fit in promoting the fight against the disease. The institute decided to have dispensaries in various congested districts of the city.

The Physicians' Club of Lincoln held its annual session January 18 and elected the following officers: Dr. William H. Houser, president; Dr. Walter W. Coleman, vice president; Dr. Harry S. Oyler, secretary-treasurer, and Drs. Lucian L. Leeds, James L. Lowrie and Calvin C. Montgomery, trustees.

Judge McEwen, on February 1, gave a decision regarding the boulder placed in Lake Front Park, Chicago, in memory of the late Dr. Samuel Guthrie, in which he denied the writ of injunction by which the Chicago Medical Society sought to restrain the park commissioners from interfering with the boulder.

The North Side Branch of the Chicago Medical Society has announced a series of lectures on medical topics of general interest to be held at the Academy of Sciences, Clark and Center streets. The first discourse was given on the evening of February 2, on "Pneumonia and the Contagious Diseases," by Dr. Robert B. Preble.

It is reported that under the reorganization at Cook County Hospital the staff will consist of 60 in place of 81, as in the past. Only one examination will be given, and those holding the highest marks will be given positions on the staff, irrespective of the school of medicine. This will also do away with the separate wards.

The asylum at Chester for the insane criminals of the southern Illinois penitentiary has been condemned and will be abandoned. This announcement has been made by the State Board of Charities at Springfield.

Fear of diphtheria at the University of Illinois. Urbana, resulted in the quarantining of the Phi Alpha Delta, Sigma Chi, Sigma Nu, and Azto fraternity houses, in addition to two residences.

Dr. Charles J. Whalen, commissioner of health of Chicago, has prepared circulars to be sent out to physicians in the city who have reported cases of scarlet fever and measles, requesting reports on the cases and facts concerning symptoms that will aid in explanation of the phenomena called "fourth disease," or "Duke's disease." Dr. Whalen hopes that this inquiry may contribute to the knowledge on this subject as to whether the disease is a clinical entity.

At a meeting of the State Board of Charities, January 18, the board adopted resolutions creating the position of executive officer and secretary of the board, to be placed in authority over all employes and agents of the board, and to whom the board delegated all executive and administrative functions not requiring the use of its discretionary powers. On the motion of Dr. McNally, Mr. William C. Graves was unanimously chosen as executive officer and secretary.

Dr. Nicholas Senn, in conjunction with the recent movements of the White Cross Aid Society, is strongly advocating that first-aid instruction be given to children in the high grades of the public schools. Lectures and lessons in regard to first aid could most properly be used in this way, and it should be made a part of the public school curriculum. These lectures should be given by competent medical men, properly compensated for their time and labor.

During the last few weeks the State Board of Health has issued three circulars, which are just now of more than ordinary import, on the prevention, restriction and suppression of scarlet fever, diphtheria and typhoid fever. Thousands of copies of these circulars are being sent to infected municipalities. In the circulars have been incorporated the most recent facts regarding practical disinfection. The method of formaldehyde-potassium permanganate disinfection is described in detail. The board has in preparation revised circulars on infant feeding and tuberculosis. The combined edition of these circulars will amount to more than 150,000 copies.

At an enthusiastic meeting of the Macoupin County Medical Society, held January 22, resolutions were adopted that the society urge its representatives in the legislature to consider favorably and pass the recommendation of the State Board of Charities for an appropriation of \$15,000 for the free distribution of diphtheritic antitoxin to the poor outside of Chicago; of \$250,000 for the establishment of a farm or colony for epileptics, and of \$150,000 for the establishment of a state sanitarium for the treatment of incipient tuberculosis, and, furthermore, that insane, feeble-minded and epileptic dependents become state charges, leaving to the county only the care of paupers.

Arrangements for the annual meeting of the Illinois State Medical Society, to be held at Rockford May 22, have been placed in the hands of the following committee: Dr. T. H. Culhane, Rockford, chairman of the general committee on arrangements; Dr. S. R. Catlin, Rockford,

treasurer, and Dr. J. E. Allaben, Rockford, secretary. Dr. Daniel Lichty, Rockford, is chairman of the committee on entertainment; Dr. W. R. Fringer, Rockford, chairman of the committee on entertainment for ladies; Dr. W. B. Helm, Rockford, chairman of the committee on transportation; Dr. C. S. Winn, Rockford, chairman of the committee on exhibits, and Dr. Paul L. Markley, Rockford, of the committee on buildings.

Through the generous benevolence of Mrs. Eudora Hull Spalding, a colony for phthisical patients has been recently opened at Naperville, Ill., under the supervision of the Visiting Nurse Association. It has been constructed on the cottage plan and furnished in the most practical and careful manner. There is a large, substantially built administration building with offices, assembly hall, dining room, nurses' quarters, kitchen, laundry and bathing facilities, surrounded by spacious open air verandas for the patients' use. The sleeping quarters follow the plan of the "lean-tos" of the Loomis Sanitarium in New York State. At present about fifteen patients can be accommodated, but it is the intention to add more open air sleeping apartments in the near future. Full information regarding this colony can be obtained from the offices of the Visiting Nurse Association.

MALPRACTICE SUIT.

Dr. F. A. Davis, of Chicago, has been made defendant in a suit by Mickalina Rehbein, demanding \$15,000 damages for injuries received in extracting a piece of needle from her right hand.

NEW INCORPORATIONS.

Western Hospital Aid Association, Chicago; mutual aid; incorporators, David A. Brown, O. E. Kuhn, C. O. Garmire.

South Side Sick and Aid Association, Chicago; benevolent; incorporators, Charles Kaspar, Charles J. Pesek, Milton Mandle.

Bellevue Medical Institute, Chicago; capital, \$2,500; manufacturing and dealing in medicines and appliances; incorporators, Frank L. Hibbard, J. W. Hibbard, Edward H. Hibbard.

MARRIAGES.

EUGENE WAHL, M.D., to Miss Mae Bradley, both of Edwardsville, Ill., January 30.

OLIVER W. GORDON, M.D., Council Bluffs, Iowa, to Mrs. Sarah Beach, Wheaton, Ill., January 10.

THOMAS STEPHEN GREENE, M.D., to Miss Georgia Xaviere Schultz, both of Chicago, February 6.

DEATHS.

D. F. BROWN, M.D., of Pulaski, Ill., a graduate of Rush Medical College, 1867, died Jan. 15, 1907, aged 64.

THEODORE A. JOHNSON, M.D., died at his home in Xenia, Ill., January 14, after an illness of a few days' duration, aged 48.

ERNEST JONSSON OARBY, M.D., died in Passavant Hospital, Chicago, January 24, as a result of street car injuries sustained January 22, aged 32.

BENJAMIN F. CRUMMER, M.D., a former practitioner of Elizabeth and Warren, Ill., died at his home in Omaha, January 24, from endocarditis, aged 58.

EDWARD M. P. LUDLAM, M.D., Hahnemann Medical College and Hospital, Chicago, 1861, died at his home in Chicago, from erysipelas, after an illness of one week, February 9, aged 67.

AUGUSTUS FRANK BAUER, M.D., Miami Medical College, Cincinnati, 1891, died at his home in Chicago, February 4, from pneumonia, said to have been due to exposure and overwork in connection with the present epidemic of contagious diseases, aged 39.

M. W. WATERMAN, M.D., Bellevue Hospital Medical College, 1871, for many years a practicing physician in New York State and northern Wisconsin, at one time coroner's physician in New York City, died at the home of his son in Chicago, January 25, aged 55.

GEORGE WENTWORTH NEWTON, M.D., University of Pennsylvania, Department of Medicine, Philadelphia, 1884, for several years a director and treasurer of Chicago West Side Hospital, an associate professor of gynecology in the College of Physicians and Surgeons, died at his home, February 9, from pneumonia, aged 46.

W. H. HASLET, M.D., of Grandview, Edgar County, died, January 16, from injuries received in a railway wreck at Sandford, Ind. After his injuries he was taken to the Union Hospital at Terre Haute, Ind., where he died. Dr. Haslet was a member of the Edgar County Medical Society and of the Esculapian Society of the Wabash Valley. He was a graduate of the Missouri Medical College in 1888.

JOHN F. SHRONTS, M.D., a well-known physician of Momence, Ill., died at his home in that city, Tuesday, Jan. 15, from injuries received by a fall the previous Sunday. Dr. Shronts was in his sixtieth year. He was a graduate of Rush Medical College in 1868; had practiced in Momence since 1871. He was surgeon of the C. & E. I. Railway Company; was a member of the Masonic bodies of Momence and Kankakee. Dr. Shronts was the father of Dr. C. F. Shronts, of the Kankakee Hospital.

W. P. BILES, M.D., died at his home in Carlyle Feb. 18, 1907, aged 56 years, 7 months, 28 days. Death was caused by an osteosarcoma of the sternum, with which he had been afflicted for about 4 years. Dr. Biles was born in Custards, Pa., June 20, 1850. He was graduated from Eclectic Medical College at Cincinnati in 1879. He early followed general practice, but of late years had made a specialty of the eye and ear. He leaves a widow and two children. He was a member of the Masonic order.

GEORGE EDWARD MILLER, M.D., was born in Hanover, Jo Daviess County, Illinois, Dec. 23, 1841. After a thorough preliminary education and two years of public school teaching and private study, he attended medical lectures at the University of Michigan and graduated at Rush

College in 1867. He first located at Savanna, later removing to Hanover, where he continued practicing to the time of his death, Nov. 9, 1906. Dr. Miller was a thorough student, a clear observer and an active and successful practitioner. In private life he was kind, unselfish and gentle; a faithful and considerate friend and a good citizen. He never sought public office, but always supported what he considered pure measures and good government, irrespective of party lines. His wife, to whom he was married in 1874, and six of their seven children survive. He was a consistent member of the Presbyterian Church and a Master Mason. He was one of the oldest practitioners in the county and will be greatly missed by his colleagues.

GEORGE E. ROSENTHAL, M.D., died Sunday, Feb. 17, 1907, at his home, Quincy, Ill., of typhoid fever complicated by pneumonia. He was born in Quincy Jan. 7, 1873, the son of Joseph S. Rosenthal, a prominent jeweler. He graduated from the high school in 1892 and, after experi-



ences in newspaper work and banking, entered the Chicago College of Physicians and Surgeons and graduated in 1902. He was lately appointed assistant surgeon at the Soldiers' Home and formed a partnership with Dr. Charles E. Ericson. He was devoted to his profession and was a man of high ideals and singularly pure personal life. He had served as secretary of the Adams County Medical Society, holding that position at the time of his death. He was never married. The only survivors of his immediate family are his mother and one sister. Services were held at the Congregational Church, the pallbearers being his intimate friends in the medical profession. Floral designs were offered by Lambert Lodge of Masons, the Adams County Medical Society, the Eagles, the Court of Honor, the North Side Boat Club, and many from the veterans of the Soldiers' Home.

COMMITTEES ON APPROPRIATIONS IN THE STATE LEGISLATURE.

Below is a list of the Committees on Appropriations in the State Legislature, showing the medical society in each member's district. These committees now have under consideration the recommendations of the State Board of Charities, viz., improvements in existing institutions, building an epileptic colony, a tubercular colony, the use of free antitoxin.

Let the officials of each medical society urge their representatives on the committees to approve these recommendations. Let all physicians throughout the state do likewise. Especially let the family physician of these respective members use his influence. His word properly has great weight with his patient. Emphasize the industrial, economical and educational value of the epileptic and tubercular colonies as outlined by Dr. Billings in the January issue of THE JOURNAL. Write, and also see your representative on the committee—and do it now. He is at home Saturdays and Sundays.

SENATE APPROPRIATION COMMITTEE

SENATOR.	ADDRESS.	MEDICAL SOCIETY.
C. P. Gardner, Chairman.....	Mendota, Ill.....	LaSalle Co. Med. Soc.
J. C. McKenzie.....	Elizabeth, Ill.....	Jo Daviess Co. Med. Soc.
Chas. H. Hughes.....	Dixon, Ill.....	Lee Co. Med. Soc.
Carl Lundberg.....	5817 S. Halsted St., Chicago.....	Chicago Med. Soc.
Homer K. Galpin.....	729 W. Monroe St., Chicago.....	Chicago Med. Soc.
B. Frank Baker.....	Kewanee, Ill.....	Henry Co. Med. Soc.
Frank A. Landee.....	Moline, Ill.....	Rock Island Co. Med. Soc.
Ira M. Lish.....	Sauemin, Ill.....	Livingston Co. Med. Soc.
H. H. Evans.....	Aurora, Ill.....	Kane and McHenry Co. Med. Soc.
Richard J. Burr.....	Joliet, Ill.....	Will Co. Med. Soc.
C. F. Hughburgh.....	Galesburg, Ill.....	Knox Co. Med. Soc.
Ed. C. Curtis.....	Grant Park, Ill.....	Kankakee Co. Med. Soc.
Niels Juul.....	443 Potomac Ave., Chicago.....	Chicago Med. Soc.
Logan Hay.....	Springfield, Ill.....	Sangamon Co. Med. Soc.
S. C. Pemberton.....	Oakland, Ill.....	Coles Co. Med. Soc.
D. A. Campbell.....	1209 Washington Blvd., Chicago.....	Chicago Med. Soc.
Chas. E. Hull.....	Salem, Ill.....	Marion Co. Med. Soc.
F. W. Burton.....	Carlinville, Ill.....	Macoupin Co. Med. Soc.
G. W. Cunningham.....	Pekin, Ill.....	Tazewell Co. Med. Soc.

HOUSE APPROPRIATION COMMITTEE

REPRESENTATIVE.	ADDRESS.	MEDICAL SOCIETY.
David E. Shanahan, Chairman.....	185 Dearborn St., Chicago.....	Chicago Med. Soc.
John D. G. Oglesby.....	Elkhart, Ill.....	Logan Co. Med. Soc.
Cicero J. Lindley.....	Greenville, Ill.....	Bond Co. Med. Soc.
Albert Glade.....	9 N. Curtis St., Chicago.....	Chicago Med. Soc.
Josiah Kerrick.....	Minonk, Ill.....	Woodford Co. Med. Soc.
Charles M. Gaunt.....	Mound City, Ill.....	Pulaski Co. Med. Soc.
Edward J. Smijkal.....	77 Bunker St., Chicago.....	Chicago Med. Soc.
Israel Dudgeon.....	Morris, Ill.....	Grundy Co. Med. Soc.
Cassius M. Coyle.....	Gridley, Ill.....	McLean Co. Med. Soc.
James M. Kittleson.....	Berwyn, Ill.....	Chicago Med. Soc.
Frank J. Heintz.....	Jacksonville, Ill.....	Morgan Co. Med. Soc.
Fred Keck.....	Belleville, Ill.....	St. Clair Co. Med. Soc.
Paul J. Zaabel.....	867 W. Taylor St., Chicago.....	Chicago Med. Soc.
Daniel E. Rose.....	Maunie, Ill.....	White Co. Med. Soc.
John E. Harris.....	Bushnell, Ill.....	McDonough Co. Med. Soc.
Louis Zinger.....	Pekin, Ill.....	Tazewell Co. Med. Soc.
R. D. Kirkpatrick.....	Benton, Ill.....	Franklin Co. Med. Soc.
Chauncey H. Castle.....	Quincy, Ill.....	Adams Co. Med. Soc.
Charles L. McMackin.....	Saline, Ill.....	Marion Co. Med. Soc.
Edward J. King.....	Galesburg, Ill.....	Knox Co. Med. Soc.
William H. Behrens.....	Carlinville, Ill.....	Macoupin Co. Med. Soc.
Oliver Sollitt.....	4029 Prairie Ave., Chicago.....	Chicago Med. Soc.
Thomas Campbell.....	Rock Island, Ill.....	Rock Island Co. Med. Soc.
Charles Adkins.....	Bement, Ill.....	Champaign Co. Med. Soc.
George H. Hamilton.....	Watseka, Ill.....	Iroquois and Ford Co. Med. Soc.
Johnson Lawrence.....	Polo, Ill.....	Ogle Co. Med. Soc.
Henry D. Fulton.....	546 Englewood Ave., Chicago.....	Chicago Med. Soc.
Clayton C. Pervier.....	Sheffield, Ill.....	Bureau Co. Med. Soc.
Frank L. Parker.....	Joliet, Ill.....	Will Co. Med. Soc.
Porter Baird.....	Pyatts, Ill.....	Perry Co. Med. Soc.
William R. Lewis.....	Grand Ridge, Ill.....	LaSalle Co. Med. Soc.
Lewis E. York.....	Harrisburg, Ill.....	Saline Co. Med. Soc.
Lee O. Browne.....	Ottawa, Ill.....	LaSalle Co. Med. Soc.
Thomas H. Riley.....	Joliet, Ill.....	Will Co. Med. Soc.
Paul Finnan.....	Bloomington, Ill.....	McLean Co. Med. Soc.
Campbell S. Hearn.....	Champaign, Ill.....	Champaign Co. Med. Soc.
John J. McLaughlin.....	1551 W. Monroe St., Chicago.....	Chicago Med. Soc.
B. F. Staymates.....	Clinton, Ill.....	DeWitt Co. Med. Soc.
John A. Read.....	Mason, Ill.....	Effingham Co. Med. Soc.
Seymour Hurst.....	Marshall, Ill.....	Clark Co. Med. Soc.
George F. Smith.....	East St. Louis, Ill.....	St. Clair Co. Med. Soc.
Clay F. Gaumer.....	Alvin, Ill.....	Vermilion Co. Med. Soc.

BILLS NOW PENDING BEFORE ILLINOIS GENERAL ASSEMBLY, RELATIVE TO STATE MEDICINE.

45th Assem.

HOUSE—No. 4

Jan. 1907

Introduced by Mr. Chipperfield, January 15, 1907.

Read first time, ordered printed and referred to Committee on Appropriations.

A BILL

For an act to establish a surgical institution for children, and making appropriation therefor.

SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly:* There is hereby authorized to be established a surgical institution in and for the State of Illinois for the surgical treatment of children under the age of fourteen years, suffering from physical deformities or injuries of a nature which will likely yield to surgical skill and treatment, and which unless so treated will probably make such children, in whole or in part, in after life, public charges.

Sec. 2. Said institute shall be known as the Illinois Surgical Institute for Children; and by such name shall be and constitute a corporation, under the laws of the State of Illinois.

Sec. 3. The purpose and object of said institute shall be to receive, treat and nurse such children, whose parents or guardians may be financially unable to provide surgical treatment, as may be physically deformed, or suffering from injuries requiring surgical treatment, to the end that their physical disabilities may be removed, and that they may be thereby made able to become self-sustaining, instead of being or becoming at some future time, public charges.

Sec. 4. The management and control of said institution shall be vested in three trustees, who shall be discreet and capable men, and one of whom shall be a reputable and skilled surgeon, all to be appointed by the Governor of the State of Illinois, and to serve, respectively, one, two and three years from the date of their appointment, the length of term of service of each to be specified in his commission. Said trustees shall receive no compensation of any kind for their services, over and beyond their actual traveling and incidental expenses, incurred in connection with the discharge of their duties as such trustees.

Sec. 5. Any child under the age of fourteen, whose parents, or guardian, may be unable to furnish proper surgical treatment and who may be in need of the same, may be admitted to such institute, upon an order to that effect made by the county judge of the county in which said child may have had a legal residence for one year last past. The county treasurer of the county in which said child may have so resided shall, upon the order of said county judge, furnish said child with transportation from the place where said child may so reside to the place of said institution and return. The order admitting said child shall, when made, be filed with the superintendent of said institute, and said child shall be admitted thereto in the regular order of filing as soon thereafter as said institute can provide room, care and attendance therefor. Said child, if deemed feasible, shall be treated, nursed in said institute, until a recovery is effected, or it becomes apparent that further treatment will be of no avail, whereupon it shall be discharged and returned to its former place of residence.

Sec. 6. Said institute shall be located in that portion of Illinois which may be deemed most advantageous.

Sec. 7. On the appointment of said trustees they shall, by advertisement in not less than four of the daily newspapers published within the territory wherein the said institute shall be located, solicit the donation of a site for said home, describing the requirements thereof, which shall be a tract of land containing not less than 160 acres, convenient to railroad transportation, and suitable for the purpose, taking into account healthfulness of the location, water supply, drainage and agriculture; and if a location satisfactory to the said trustees shall, within a time to be fixed by said trustees, be offered to be donated for said purpose, they may, upon investigation, finding the title to be good, free and clear, accept such offer; and cause proper conveyance thereof to be made to such institute by the corporate name thereof.

Sec. 8. The Board of Trustees shall appoint a skilled and capable surgeon general superintendent, and may remove the same for cause to be stated, first having given such officer a copy of the charges against him, and reasonable notice of the time and place when such charges will be heard, and an opportunity to defend himself.

Sec. 9. All other officers and employees shall be appointed and removed by the said Board of Trustees, except in so far as is covered by the Civil Service Laws of Illinois.

Sec. 10. The compensation of the superintendent, officers and employees shall be fixed by the Board of Trustees.

Sec. 11. The Board of Trustees may from time to time accept and hold and use for the benefit of said institute or the inmates thereof, any gift, donation, bequest or devise of money or real or personal property, and may agree to and perform any condition of such gift, donation, bequest or devise not contrary to any law of the State.

Sec. 12. The Board of Trustees shall establish all needful rules and regulations for the management of said institute and of the inmates thereof.

Sec. 13. The Board of Trustees shall cause to be prepared, suitable plans and specifications for the building and improvements upon the site so selected, as may be necessary to carry into effect the purpose of this Act. The principal building shall be of sufficient size and capacity to permit the proper treatment and care of at least

fifty patients at one time; said building to be plain and substantial in its type of architecture; of approved design for the purpose for which it is intended, and shall be constructed of fire-resisting materials.

Sec. 14. The plans and specifications, when prepared to the satisfaction of the Board of Trustees, shall be submitted to the Governor, with a detailed estimate of the cost of each and every building and improvement proposed to be made.

Sec. 15. When such plans are approved by the Governor, the Board of Trustees shall cause not less than thirty days' notice to be given, by publication in at least four daily newspapers, published in the State of Illinois, that sealed bids will be received for the construction of such building and improvements as the said board shall conclude to construct, at that time. Said notice shall specify when and the terms upon which bids will be received.

Sec. 16. No bid shall be accepted which is not accompanied by sufficient bond in the penal sum of \$10,000, payable to the People of the State of Illinois, with at least three good and sufficient sureties conditioned that if his bid is accepted, he will enter into a contract with said school, by its corporate name, for the doing of the work, and will give bond required by this Act, conditioned for the faithful performance of his contract. At the time and place specified in the notice and in the presence of such of the bidders as may appear, the bids shall be opened and the contract awarded to the lowest and best bidder, unless it shall appear that no satisfactory bid shall have been made, and if no satisfactory bid shall have been made, another notice shall be given in like manner for other bids until an acceptable bid shall be made. The trustees may accept bids for the particular portions of the work if they can be advantageously separated.

Sec. 17. The contract to be made with the successful bidder shall be accompanied by a good and sufficient bond, to be approved by the Governor before accepted, conditioned for the faithful performance of his contract; shall provide for the appointment of a superintendent of construction, who shall receive not more than five dollars per day for his services, and who shall carefully and accurately measure the work done, and for the payment of the contractor upon the aforesaid measurement, and for the withholding of fifteen per cent. of the value of the work done and materials on hand until the completion of the building and for a forfeiture of a stipulated sum per diem for every day that the completion of the work shall be delayed after the time specified for the completion of the contract, and for the full protection of all persons who may furnish labor or materials by withholding payment from the contractor and by paying the parties to whom any moneys are due for service and materials, as aforesaid, directly for all work done or material furnished by them, in case of notice given to the trustees that any such party apprehends or fears that he will not receive all moneys due; and for the settlement of all disputed questions as to the value of alterations and extras, by arbitration, at the time of final settlement, as follows: One arbitrator to be chosen by the trustees, one by the contractor and one by the Governor of the State, all three of said arbitrators to be practical mechanics and builders, and for the power and privilege of the trustees under the contract to alter changes in the plans at their discretion, and to refuse to accept any work which may be done not fully in accordance with the letter and spirit of the plans and specifications, and all work not accepted shall be replaced at the expense of the contractor, and for a deduction from the current price of all alterations ordered by the trustees which may and do diminish the cost of the building. They may also make such other provisions and conditions in said contract not hereinabove specified as may seem to them necessary or expedient; *Provided*, that no condition shall be inserted contrary to the letter and spirit of this Act, and that in no event shall the State be liable for a greater amount of money than is appropriated for said building and its appurtenances.

Sec. 18. All contracts shall be signed by the president of the Board of Trustees on behalf of the board, after a vote authorizing the president so to sign shall have been entered upon the minutes of the board; and it shall be attested by the signature of the secretary of the board and by the corporate seal. All contracts shall be drawn in triplicate, and one copy shall be deposited in the office of the Board of Public Charities of this State.

Sec. 19. All measurements or estimates on account of work in progress shall show in detail all the amount and character of the work estimated, and the estimates shall be paid from the State Treasury only on the warrant of the Auditor of Public Accounts on vouchers made by the said Board of Trustees and approved by the Governor.

Sec. 20. The following sums are hereby appropriated: For the construction of said building and improvements, the sum of fifty thousand dollars; for the furnishing of said building, the sum of ten thousand dollars.

45th Assen.

HOUSE—No. 21

Jan. 1907

Introduced by Mr. Smith, January 15, 1907.

Read first time, ordered printed and referred to Committee on Manufactures, when appointed.

A BILL

For an act to protect the public health by prohibiting the collection of second-hand bottles or jars, or the sale of goods in second-hand bottles or jars, and providing the punishment for the violation of the same.

SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly:* That whoever gathers empty bottles or jars, except the same be broken immediately to culler, or whoever bottles, sells or offers for sale any goods or merchandise put up in bottles or jars that have been used as a package or cover for the same, or any kinds of goods, shall be deemed guilty of a misdemeanor and shall, upon conviction thereof, be fined not less than five dollars (\$5.00) and not more than one hundred dollars (\$100.00) for the first offense, and for each subsequent offense shall, upon conviction thereof, be punished by a fine of not to exceed two hundred dollars (\$200.00) and by imprisonment in the county jail not to exceed six months: *Provided*,

however, that the provisions of this Act shall not apply to any person, firm or corporation that refills bottles or jars originally made for its own use, if the bottles or jars are first thoroughly cleansed and sterilized and then refilled with the same kind of goods as were originally contained therein.

Sec. 2. It shall be the duty of the State Food Commissioner of the State of Illinois by and with the aid of his assistants and inspectors to enforce the provisions of this Act. And it is hereby made the duty of the State's Attorney of each county in this State to prosecute all violations of this Act upon complaint of said State Food Commissioner, his assistants or inspectors, or any other person.

45th Assem.

HOUSE—No. 34

Jan. 1907

Introduced by Mr. Pogue, January 16, 1907.

Read first time, ordered printed and referred to Committee on Railroads.

A BILL

For an act to aid in the prevention of disease.

SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly:* That hereafter it shall be unlawful for any owner or owners, or the agent or employé of any owner or owners, of any passenger coach or coaches, operating now or in the future, over or on any railroad or railroads in the State, to sweep or dust the same while en route and occupied by passengers. This Act shall apply to and include all corporations and other persons engaged in the transportation of passengers in this State.

Sec. 2. Any violation of this Act shall be deemed a misdemeanor and subject the offender to a fine of not less than twenty (\$20) dollars nor more than one hundred (\$100) dollars for each and every offense.

Sec. 3. The courts of any county in this State through which the road or roads extend shall have jurisdiction.

45th Assem.

SENATE—No. 60

Jan., 1907.

Introduced by Mr. Breidt, January 22, 1907.

Read first time, ordered printed and referred to Committee on Judiciary.

45th Assem.

HOUSE—No. 85

Jan. 1907

Introduced by Mr. Roos, January 23, 1907.

Read by title, ordered printed and referred to Committee on License, when appointed.

A BILL

For an act to amend an act entitled "An Act providing for the regulation of the embalming and disposal of dead bodies, for a system of examination, registration and licensing of embalmers, and imposing penalties for the violation of any of its provisions," approved May 13, 1905, in force July 1, 1905, by adding an additional section thereto, numbered Section 9, as follows:

SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly:* That an act entitled "An Act providing for the regulation of the embalming and disposal of dead bodies, for a system of examination, registration and licensing of embalmers, and imposing penalties for the violation of any its provisions," approved May 13, 1905, in force July 1, 1905, be amended by adding an additional section thereto, numbered Section 9, as follows:

Sec. 9. *If any undertaker or other person embalms with, injects or places upon any dead human body, any fluid or preparation of any kind which contains strychnine or arsenic, he shall be fined not exceeding \$50.00 (fifty dollars) for each offense.*

45th Assem.

HOUSE—No. 137

Jan. 1907

Introduced by Mr. Schermerhorn, January 30, 1907.

Read by title, ordered printed and referred to Committee on Manufactures.

A BILL

For an Act regulating the manufacture and sale of patent or proprietary drugs and medicines.

SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly:* That it shall be unlawful to manufacture, prepare, sell or offer for sale in this State any patent or proprietary medicine containing any morphine, opium, cocaine, acetanilid, chloroform, cannabis indica, chloral hydrate, sulphurous and sulphuric acids, or any other poisonous substance, or any of their derivations or preparations, unless each package, box, cask, jug or bottle shall be plainly labeled in black-faced type, not less than eight point in size, with the formulae of the contents of the package, box, cask, jug or bottle, and the quantity of such morphine, opium, cocaine, acetanilid, chloroform, cannabis indica, chloral hydrate, sulphuric or sulphurous acid, or such other poisonous substance contained in each prescribed dose of such patent or proprietary medicine, together with the amount of alcohol used in such preparation.

Sec. 2. Any person or persons, firm or corporations, manufacturing, preparing, selling or offering for sale any package, box, cask, jug or bottle, containing any patent or proprietary medicine in the preparation of which is used any morphine, opium, cocaine, acetanilid, chloroform, cannabis indica, chloral hydrate, sulphuric or sulphurous acid, or any other poisonous substance or any of their preparations or derivations, without the same being labeled as provided in section one of this Act, shall be deemed guilty of a misdemeanor and upon indictment and conviction shall be fined in a sum not less than one hundred dollars (\$100.00) nor more than one thousand dollars (\$1,000.00).

or be confined in the county jail not less than thirty days nor more than one year, or both, at the discretion of the court.

Sec. 3. Nothing in this Act shall be construed to apply to the prescriptions of any duly licensed and reputable physician of this State, where such prescriptions are made in the regular course of their practice in good faith and not intended as a subterfuge for avoiding the provisions hereof.

Sec. 4. It shall be the duty of the State's attorney to enforce the provisions of this Act, and any failure on the part of any State's attorney to prosecute any person or persons, firm or corporation, violating section one hereof, shall subject him to the same penalties as are herein prescribed upon conviction of such neglect or omission of duty, and such State's attorney may be prosecuted in any court of competent jurisdiction upon information filed in such court by any citizen of this State having knowledge of the facts and such neglect or omission of duty, and upon the filing of such information it shall be the duty of the court to appoint some licensed attorney as special prosecutor, who shall not be related by kin or otherwise to such State's attorney or to any one charged with violating this Act, and such court shall have power to issue process against said State's Attorney the same as in cases of indictment.

45th Assem.

HOUSE—No. 140

Jan. 1907

Introduced by Mr. Shanahan, by request, January 30, 1907.

Read by title, ordered printed and referred to Committee on Appropriations.

A BILL

For an Act making appropriations for the Illinois State Colony for Epileptics.

SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly:* That the sum of two hundred and sixty-five thousand (\$265,000) dollars be appropriated to the Board of State Commissioners of Public Charities for the purpose of locating and constructing necessary buildings and maintenance of the colony for epileptics under the provisions of an act of the Forty-first General Assembly, approved April 19, 1899.

Land and buildings	\$235,000
Maintenance till 1909	30,000

\$265,000

Sec. 2. The Auditor of Public Accounts is hereby authorized and required to draw his warrant upon the State Treasurer for the amount herein appropriated upon presentation of proper vouchers certified to by the Board of State Commissioners of Public Charities and approved by the Governor.

45th Assem.

HOUSE—No. 178

Feb. 1907

Introduced by Mr. Hope, February 5, 1907.

Read by title, ordered printed and referred to Committee on Manufactures.

A BILL

For an act to prevent the manufacture or sale of adulterated or misbranded foods and drugs.

SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly:* That it shall be unlawful for any person to manufacture or sell or offer for sale any article of food or drug which is adulterated or misbranded, within the meaning of this Act; and any person who shall violate any of the provisions of this section shall be guilty of a misdemeanor, and for each offense shall, upon conviction thereof, be fined not to exceed _____ dollars or shall be sentenced to one year's imprisonment, or both such fine and imprisonment, in the discretion of the court, and for each subsequent offense and conviction thereof shall be fined not less than _____ dollars or sentenced to one year's imprisonment, or both such fine and imprisonment, in the discretion of the court: *Provided*, That no article shall be deemed misbranded or adulterated within the provisions of this Act when intended for export to any foreign country and prepared or packed according to the specifications or directions of the foreign purchaser when no substance is used in the preparation or packing thereof in conflict with the laws of the foreign country to which said article is intended to be shipped; but if said article shall be in fact sold or offered for sale for domestic use or consumption, then this proviso shall not exempt said article from the operation of any of the other provisions of this Act.

Sec. 2. That the term "drug," as used in this Act, shall include all medicines and preparations recognized in the United States Pharmacopœia or National Formulary for internal or external use, and any substance or mixture of substances intended to be used for the cure, mitigation or prevention of disease of either man or other animals. The term "food," as used herein, shall include all articles used for food, drink, confectionery, or condiment by man or other animals, whether simple, mixed, or compound.

Sec. 3. That for the purposes of this Act an article shall be deemed to be adulterated:

In case of drugs:

First. If, when a drug is sold under or by a name recognized in the United States Pharmacopœia or National Formulary, it differs from the standard of strength, quality, or purity, as determined by the test laid down in the United States Pharmacopœia or National Formulary official at the time of investigation: *Provided*, That no drug defined in the United States Pharmacopœia or National Formulary shall be deemed to be adulterated under this provision if the standard of strength, quality, or purity be plainly stated upon the bottle, box, or other container thereof, although the standard may differ from that determined by the test laid down in the United States Pharmacopœia or National Formulary.

Second. If its strength or purity fall below the professed standard or quality under which it is sold.

In the case of confectionery:

If it contains terra alba, barytes, talc, chrome yellow, or other mineral substance or poisonous color or flavor, or other ingredient deleterious or detrimental to health, or any vinous, malt, or spirituous liquor or compound or narcotic drug.

In the case of food:

First. If any substance has been mixed and packed with it so as to reduce or lower or injuriously affect its quality or strength.

Second. If any substance has been substituted wholly or in part for the article.

Third. If any valuable constituent of the article has been wholly or in part abstracted.

Fourth. If it be mixed, colored, powdered, coated, or stained in a manner whereby damage or inferiority is concealed.

Fifth. If it contain any added poisonous or other added deleterious ingredient which may render such article injurious to health: *Provided*, That when in the preparation of food products for shipment they are preserved by any external application applied in such manner that the preservative is necessarily removed mechanically, or by maceration in water, or otherwise, and directions for the removal of said preservative shall be printed on the covering or the package, the provisions of this Act shall be construed as applying only when said products are ready for consumption.

Sixth. If it consists in whole or in part of a filthy, decomposed or putrid animal or vegetable substance, or any portion of an animal unfit for food, whether manufactured or not, or if it is the product of a diseased animal, or one that has died otherwise than by slaughter.

Sec. 4. That the term "misbranded," as used herein, shall apply to all drugs, or articles of food, or articles which enter into the composition of food the package or label of which shall bear any statement, design, or device regarding such article, or the ingredients or substances contained therein which shall be false or misleading in any particular, and to any food or drug product which is falsely branded as to the state, territory, or country in which it is manufactured or produced.

That for the purposes of this Act an article shall also be deemed to be misbranded:

In case of drugs:

First. If it be an imitation of or offered for sale under the name of another article.

Second. If the contents of the package as originally put up shall have been removed, in whole or in part, and other contents shall have been placed in such package, or if the package fail to bear a statement on the label of the quantity or proportion of any alcohol, morphine, opium, cocaine, heroin, alpha or beta eucaine, chloroform, cannabis indica, chloral hydrate, or acetanilide, or any derivative or preparation of any such substances contained therein.

(*Provided*, That nothing in this paragraph shall be construed to apply to the dispensing of prescriptions written by regularly licensed practicing physicians, veterinary surgeons and dentists, and kept on file by the dispensing pharmacist, nor to such drugs as are recognized in the United States Pharmacopoeia and the National Formulary, and which are sold under the name by which they are so recognized.)

In the case of food:

First. If it be an imitation of or offered for sale under the distinctive name of another article.

Second. If it be labeled or branded so as to deceive or mislead the purchaser, or purport to be a foreign product when not so, or if the contents of the package as originally put up shall have been removed in whole or in part and other contents shall have been placed in such package, or if it fail to bear a statement on the label of the quantity or proportion of any morphine, opium, cocaine, heroin, alpha or beta eucaine, chloroform, cannabis indica, chloral hydrate, or acetanilide, or any derivative or preparation of any of such substances contained therein.

Third. If in package form, and the contents are stated in terms of weight or measure, they are not plainly and correctly stated on the outside of the package.

Fourth. If the package containing it or its label shall bear any statement, design, or device regarding the ingredients or the substances contained therein, which statement, design, or device shall be false or misleading in any particular: *Provided*, That an article of food which does not contain any added poisonous or deleterious ingredients shall not be deemed to be adulterated or misbranded in the following cases:

First. In the case of mixtures or compounds which may be now or from time to time hereafter known as articles of food, under their own distinctive names, and not an imitation of or offered for sale under the distinctive name of another article, if the name be accompanied on the same label or brand with a statement of the place where said article has been manufactured or produced.

Second. In the case of articles labeled, branded, or tagged so as to plainly indicate that they are compounds, imitations, or blends, and the word "compound," "imitation," or "blend," as the case may be, is plainly stated on the package in which it is offered for sale: *Provided*, That the term blend as used herein shall be construed to mean a mixture of like substances, not excluding harmless coloring or flavoring ingredients used for the purpose of coloring and flavoring only: *And provided further*, That nothing in this Act shall be construed as requiring or compelling proprietors or manufacturers of proprietary foods which contain no unwholesome added ingredients to disclose their trade formulas, except in so far as the provisions of this Act may require to secure freedom from adulteration or misbranding.

Sec. 5. That no dealer shall be prosecuted under the provisions of this Act when he can establish a guaranty signed by the wholesaler, jobber, manufacturer, or other party residing in this State, from whom he purchases such articles, to the effect that the same is not adulterated or misbranded within the meaning of this Act, designating it. Said guaranty, to afford protection, shall contain the name and address of the party or parties making the sale of such articles to such dealer, and in such case said party or parties shall be amenable to the prosecutions, fines, and other penalties which would attach, in due course, to the dealer under the provisions of this Act.

Sec. 6. It shall be the duty of the State Dairy and Food Commissioner to enforce all the provisions of this Act which relate to foods, and it shall be the duty of the State Board of Pharmacy to enforce all the provisions of this Act which relate to drugs.

Sec. 7. That the term "Territory," as used in this Act shall include the insular possessions of the United States. The word "person" as used in this Act shall be construed to import both the plural and the singular, as the case demands, and shall include corporations, companies, societies and associations. When construing and enforcing the provisions of this Act, the act, omission or failure of any officer, agent, or other person acting for or employed by any corporation, company, society, or association, within the scope of his employment or office, shall in every case, be also deemed to be the act, omission or failure of such corporation, company, society, or association as well as that of the person.

Sec. 8. This Act shall take effect one year from the date of its passage.

45th Assem.

HOUSE—No. 230

Feb. 1907

Introduced by Mr. McLaughlin, February 7, 1907.

Read by title, ordered printed and referred to Committee on Warehouses.

A BILL

For an act providing for the licensing, regulation and inspection of cold storage warehouses and regulating the sale of articles of foodstuffs stored therein.

SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly:* That it shall be unlawful for any person or corporation to carry on, engage in or conduct the business of storing perishable food or keep, maintain or operate a cold storage warehouse where meats, fish, eggs, poultry, game, fruits, farm or garden produce or other perishable foodstuffs are stored within the limits of any incorporated city or village in this State without first having obtained a license for such business as hereinafter provided.

Sec. 2. Any person or corporation desiring to carry on, engage in or conduct the business of storing perishable food or to keep, maintain or operate a cold storage warehouse where meats, fish, eggs, poultry, game, fruits, farm or garden produce, or other perishable foodstuffs are stored, shall make application in writing to the Mayor or President of the Board of Trustees for that purpose in which application shall be described the location at which said business is proposed to be carried on. Such application shall be accompanied by a report or certificate, from the commissioner of health of any city or village where such officer may exist, and in such cities or villages having no commissioner of health or any officer performing the duties of such commissioner, then such application shall be accompanied by a certificate or report from the State Board of Health, stating whether the place in which such applicant proposes to carry on such business is in a sanitary condition and is a fit place in which to carry on such business. If such report shall be to the effect that such place is fit place and in a sanitary condition in which to carry on said business the Mayor or President of the Board of Trustees shall cause to be issued to such applicant a license authorizing such applicant to carry on the said business for and during the period for which said license shall be issued upon payment by such applicant to the proper authorities of any such incorporated city or village of a license fee of five hundred dollars (\$500) annually, and the filing of a bond running to the incorporated city or village as the case may be, with at least two sureties to be approved by the Mayor or President of the Board of Trustees in the sum of ten thousand dollars (\$10,000), conditioned that such licensed person or corporation shall faithfully observe and obey all the laws of the State of Illinois and the ordinances of such incorporated city or village as the case may be, now in force or which may hereafter be passed with reference to such business.

Sec. 3. Whenever any meats, fish, eggs, poultry, game, fruits, farm or garden produce or perishable foodstuffs of any kind or character are placed in storage at such cold storage warehouse, each package, box, bale, barrel, tub, or other receptacle in which such articles of food are packed shall be plainly stamped with a stamp showing the date that such articles of food were placed in said cold storage warehouse. Such stamp shall not be removed, defaced, altered or destroyed at any time while said articles of food remain in said receptacle, nor shall said articles of food be removed or transferred from a receptacle so stamped to another while the said articles of food remain in cold storage warehouse, nor shall the said articles of food be removed to another cold storage warehouse except upon the written permission of the commissioner of health of any city or village where such officers may exist, and in such cities or villages having no commissioner of health or any officer performing the duties of such commissioner then such permission shall be obtained from the State Board of Health, or do anything which shall cause the stamp so affixed to a receptacle containing such article of food to indicate a different date from the one on which the said articles of food were first placed in a cold storage warehouse shall be subject to the penalty hereinafter provided for.

Sec. 4. It shall be unlawful to place in such cold storage warehouse any poultry or fowl of any kind in an undrawn condition, or with the entrails left therein.

Sec. 5. It shall be unlawful for any person, persons, firm or corporation to sell, offer or expose for sale any meats, fish, eggs, poultry, game, fruits, farm or garden produce or other perishable foodstuff placed in cold storage or removed or taken from any cold storage warehouse unless each package, box, barrel, tub, or other receptacle in which the aforementioned articles of food are contained and packed, and sold or offered or exposed for sale or from which such package, box, barrel, tub, or other receptacle from which such aforementioned articles of food are sold, offered or exposed for sale, shall be plainly stamped with the stamp of every such warehouse where such aforementioned articles of food have been stored showing the date that such aforementioned articles of food were placed in such cold storage warehouse.

Sec. 6. It shall be unlawful for any person, persons, firm or corporation to have in its possession with the intention of selling, or offering or exposing for sale any package.

box, bale, barrel, tub, or other receptacle, in which any meats, fish, eggs, poultry, game, fruits, farm or garden produce, or other perishable foodstuffs are packed or contained and which have been taken or removed from any cold storage warehouse where the stamp showing the date, such articles of food were placed in any such cold storage warehouse has been removed, defaced, altered, or destroyed, or is not plainly legible.

Section 7. Whenever any meats, fish, eggs, poultry, game, fruits, farm or garden produce or other perishable foodstuffs have been retained for a period of six months, notice shall be given within five days thereafter to the commissioner of health of any such city or village where such officer may exist and in such cities or villages having no commissioner of health any officer performing the duties of such commissioner, then to the State Board of Health by the owner, manager, superintendent or person in charge of such cold storage warehouse, and thereupon it shall be the duty of said commissioner of health of any such city or village where such officer may exist and in such cities or villages having no commissioner of health or any officer performing the duties of such commissioner, it shall be the duty of the State Board of Health to cause such foodstuffs to be inspected, and in case they are found upon inspection to be fit for use, such foodstuffs may be sold with the consent of the owner of same to the highest bidder for immediate consumption, the proceeds of such sale to go to the owner thereof; but if such owner refuses to allow such foodstuffs to be sold in the manner aforesaid, then it shall be within the discretion of the commissioner of health or State Board of Health as the case may be, to condemn the same at once or permit it to be retained in such cold storage warehouse for a limited time to be fixed by him or it, at his or its discretion, at the end of which time it shall be condemned as unfit for use.

Sec. 8. Every keeper of a cold storage warehouse shall allow the commissioner of health or the State Board of Health, as the case may be, and all other duly authorized employes of any such department of health or State Board of Health to fully and freely inspect all such articles of food so stored, and shall answer all reasonable and proper questions asked by such officers or employes relating to the condition and age of such articles of food, and said articles of food shall be subject to condemnation and destruction in like manner as all other unwholesome or decayed food as provided for by the health ordinances of any such city or village and the health laws of this State, and the discretion of the health officers of any such city or village or of the State Board of Health in regard to such food so stored, shall be the same as their discretion in regard to all other foods as provided for by the ordinances of any such city or village relating thereto, or the laws of the State of Illinois likewise thereto relating.

Sec. 9. Any person, persons, firm or corporation violating any of the provisions of this Act shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined not less than two hundred dollars (\$200) nor more than one thousand (\$1,000) for each offense.

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45th Assem. SENATE—No. 21 Jan., 1907.
Introduced by Mr. Chaffee, by request, January 15, 1907.
Read first time, ordered printed and referred to Committee on License and Miscellany.

45th Assem. HOUSE—No. 66 Jan. 1907
Introduced by Mr. Allen, January 23, 1907.
Read by title, ordered printed and referred to Committee on Miscellaneous Subjects, when appointed.

A BILL

For an act to regulate the practice of Osteopathy in the State of Illinois, to provide for a board of Osteopathic examination and registration and to provide penalties for the violations of the provisions of this Act.

SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly:* That the Governor shall, within thirty (30) days after the passage of this Act has taken effect, appoint a Board of Osteopathic Examiners to be known as "The Illinois State Board of Osteopathic Examination and Registration," consisting of five (5) members, whose term of office shall expire on one (1), two (2), three (3), four (4) and five (5) years consecutively from the date of their appointment; and he shall annually thereafter appoint one member for five (5) years to fill the vacancy caused by the expiration of the term of office of the outgoing member of the board. No person who is not a graduate of a reputable school or college of Osteopathy, having a course of at least four (4) terms of five (5) months each, shall be appointed a member of said board, and who has not been a resident of the State of Illinois at least one (1) year preceding such an appointment.

Sec. 2. The Governor shall, immediately after the appointment of said board, appoint from its members a president, secretary and treasurer and said board shall have a common seal. The president and secretary shall have the authority to administer oaths for the accomplishments of the objects of the board as hereinafter provided. The board shall keep a record of all its proceedings, and also a register of all applicants for license, together with a record showing their ages, time spent in the study of Osteopathy and the name and location of all colleges granting to such applicants degrees or certificates of courses in Osteopathy. Such record shall also show whether such applicant was rejected or licensed; and said books and register shall be *prima facie* evidence of all matters required to be kept therein. No applicant shall be rejected without being given an opportunity of appearing before the board in person or by attorney. It shall be the duty of said board to meet at least semi-annually at such time and place as it shall designate, to examine applicants to practice Osteopathy in this State, and shall grant license to such applicants as shall satisfactorily pass the examination prescribed by said board; *Provided*, Said applicants are of good moral character, are graduates of some recognized college of Osteopathy requiring a three years'

course of nine months each year before graduation, no two of such courses to be given within any one twelve months, and that shall require for admission thereto a preliminary education equivalent to that necessary for entrance to the junior class of an accredited high school in this State, including a one year's course in Latin.

Sec. 3. The board shall prescribe an examination which shall include the following subjects, namely: Anatomy, physiology, histology, physiological chemistry, toxicology, pathology, gynecology, obstetrics, hygiene, neurology, minor surgery, antiseptics, anesthetics, bacteriology, medical jurisprudence, principles and practice of Osteopathy and Osteopathic diagnosis and such other subjects as said board shall direct. In each of the subjects named the applicants shall pass a minimum grade of seventy (70) per cent. and a general average for the entire examination of not less than seventy-five (75) per cent. After examination as hereinbefore provided the board shall, if it find the applicant qualified, grant a license to said applicant to practice Osteopathy, which license, after the payment of the fees as hereinafter provided, shall be signed by all the members of the board and attested by the secretary and seal of the board. Osteopaths when so licensed shall have the same rights and privileges and be subject to the same laws and regulations as physicians from other schools of medical practice, but shall not have the right to practice major surgery or to prescribe drugs otherwise than in the use of antiseptics, anesthetics and antidotes for poisons. The fee for examination and for a certificate shall be as follows: Ten (\$10) dollars fee examination and five (\$5) dollars for a certificate if issued. Such fee or fees shall be paid to the treasurer of the board towards defraying any proper and reasonable expenses of the board.

Sec. 4. Any person within thirty (30) days after the organization of the board holding a certificate to "treat human ailments without the use of medicine internally or externally, and without performing surgical operations," issued under and according to the provisions of chapter 91, Revised Statutes of Illinois, 1901, can upon presenting such certificate on the issuance of said license obtain an Osteopathic physician's certificate: *Provided*, He or she files with the board a certificate of the Illinois Osteopathic Association, a corporation duly organized and chartered under the laws of the State of Illinois, setting forth under seal attested by the president and secretary of the association that the person named in the certificate is a graduate of a reputable college of Osteopathy; that he or she is of good moral character and that he or she is in good standing in his or her profession, such person upon the payment of five dollars (\$5.00) shall receive an Osteopathic physician's certificate from the board without an examination: *Provided further*, Any person producing satisfactory evidence of having been licensed to practice Osteopathy in any other state or territory of the United States for a period of at least three (3) years, who shall personally appear and present a certified copy of certificate of registration or license which has been issued to said applicant in another state or territory in the Union or of other countries where the requirements for registration shall be deemed by the board equivalent to those of this State, shall be entitled to receive a certificate to practice Osteopathy in this State upon the presentation of a diploma, granted by a recognized college of Osteopathy, to the board and the payment of a registration fee of fifteen dollars (\$15.00).

Sec. 5. Every person holding a license to practice Osteopathy from the Osteopathic State Board of Examination and Registration shall have it recorded in the office of the county clerk in which he practices, and the date of recording shall be endorsed thereon. Any person practicing in another county shall record Osteopathy, or any letters or designations in which he or she practices. The county clerk shall keep in a book provided for the purpose a complete list of all Osteopathic certificates recorded by him, with the date of issue of the license.

Sec. 6. On the thirtieth day of September of each year the Illinois State Osteopathic Board shall make a report of its proceedings showing all items of receipts from all its sources and disbursements for all licenses issued. All funds in the treasury on said date which have been received in the enforcement of this Act shall be paid into the State treasury.

Sec. 7. Each member of the board shall receive a compensation of five (\$5) dollars per diem for the time actually spent by him in discharging his duties as a member of the board, together with his necessary expenses: *Provided*, The amount received for examinations and certificates under this Act be sufficient to pay the same, but if the State Auditor shall, at any time, find upon investigation that said sums are not sufficient to meet the per diem and expenses as herein provided, then he shall allow the expenses in full and such percentage upon the per diem that the expense to the State shall not exceed the receipts under the provisions of this Act.

Sec. 8. All statutory regulations controlling infectious and contagious diseases, and the granting of certificates of births and deaths and all requirements of public health acts shall apply to practitioners of Osteopathy.

Sec. 9. Any person in this State who shall practice or attempt to practice Osteopathy, or who shall hold himself or herself out to the public as an Osteopathic physician or specialist in any of the branches of the respective schools of Osteopathy, or who shall use the title "D. O.," meaning doctor or diplomate of Osteopathy, or any letters or designation meaning any of the titles enumerated in this section without complying with the provisions of this Act, shall be guilty of a misdemeanor, and upon conviction thereof shall be fined not less than fifty (\$50) dollars, nor more than five hundred (\$500) dollars, for each offense or by imprisonment in the county jail for a term not exceeding three (3) months, or by both such fines and imprisonment.

Sec. 10. All acts and parts of acts inconsistent with this Act are hereby repealed.
—66 H-2.

45th Assem.

SENATE—No. 82

Jan. 1907.

Introduced by Mr. Campbell, January 24, 1907.

Read first time, ordered printed, and referred to Committee on License and Miscellany.

45th Assem.

HOUSE—No. 96

Jan. 1907

Introduced by Mr. McGoorty, January 24, 1907.

Read first time, ordered printed and referred to Committee on Miscellaneous Subjects, when appointed.

A BILL

For an Act to provide against the evils resulting from the traffic in certain narcotic drugs, and to regulate the sale thereof.

SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly:* That it shall be unlawful for any person, by himself or another, either as principal, clerk or servant, directly or indirectly, firm or corporation to sell, furnish or give away any cocaine, alpha or beta eucaine, codeine, opium, morphine, heroin, chloral hydrate, or any salt or compound or derivative of any of the foregoing substances, or any preparation or compound containing any of the foregoing substances, or their salts, compounds or derivatives, except upon the original written order or prescription of a lawfully authorized practitioner of medicine, dentistry, or veterinary medicine, which order or prescription shall be dated, and shall bear the name of the person for whom prescribed, or, if ordered by a practitioner of veterinary medicine, shall state the kind of animal for which ordered, and shall be signed by the person giving the prescription or order. Such written order or prescription shall be dated, and shall have the name of the patient written upon it, and shall be retained on file by the person, firm or corporation who shall compound or dispense the articles ordered or prescribed, and it shall not be again compounded or dispensed, except upon the written order of the original prescriber for each and every subsequent compounding or dispensing. No copy or duplicate of such written order or prescription shall be made or delivered to any person, but the original shall at all times be open to inspection by the prescriber and properly authorized officers of the law.

Provided, however, That the above provision shall not apply to preparations containing not more than two grains of opium or not more than one-fourth grain of morphine, or not more than one-fourth grain of heroin, or not more than one-fourth grain of codeine, or not more than ten grains of chloral hydrate, in one fluid ounce, or, if a solid preparation, in one avoirdupois ounce: *Provided also,* That the above provision shall not apply to preparations containing opium and recommended and sold in good faith for diarrhoea and cholera, each bottle or package of which is accompanied by specific directions for use, and a caution against habitual use, nor to powder of ipecac and opium, commonly known as Dover's Powder, nor to liniments or ointments when plainly labeled "for external use only." *And provided also,* That all preparations which are exempt from the provisions hereof shall be sold only in bottles or packages on each of which is plainly marked the amount of morphine or opium contained in said preparation. *Provided further,* That the provisions of this section shall not apply to sales at wholesale by jobbers, wholesalers and manufacturers to retail druggists or qualified physicians, or to each other, nor to sales at retail by retail druggists to regular practitioners of medicine, dentistry, or veterinary medicine, nor to sales made to manufacturers of proprietary or pharmaceutical preparations for use in the manufacture of such preparations, nor to sales to hospitals, colleges, scientific or public institutions.

Sec. 2. It shall be unlawful for any practitioner of medicine, dentistry or veterinary medicine to furnish to or to prescribe for the use of any known habitual user of the same, any cocaine, heroin, alpha or beta eucaine, opium, morphine, codeine, chloral hydrate, or any salt or compound or derivative of any of the foregoing substances, or any preparation containing any of the foregoing substances, or their salts, compounds, or derivatives. And it shall also be unlawful for any practitioner of dentistry to prescribe any of the foregoing substances for any person not under his treatment in the regular practice of his profession, or for any practitioner of veterinary medicine to prescribe any of the foregoing substances for the use of any human being.

Provided, however, That the provisions of this section shall not be construed to prevent any lawfully authorized practitioner of medicine from furnishing or prescribing in good faith for the use of any known habitual user of narcotic drugs who is under his professional care such substances as he may deem necessary for their treatment, when such prescriptions are not given or substances furnished for the purpose of evading the provisions of this Act.

Sec. 3. Any person who shall violate any of the provisions of this Act shall be deemed guilty of a misdemeanor, and upon conviction for the first offense shall be fined not less than twenty-five dollars (\$25), nor more than two hundred dollars (\$200), and may also be imprisoned in the county jail for not more than six months; and upon conviction for a second offense shall be imprisoned in the county jail for not more than six months, and if the person so convicted be a licensed pharmacist, physician, dentist or veterinary surgeon, his license shall be revoked upon conviction for a second offense. It shall be the duty of the Board of Pharmacy to cause the prosecution of all persons violating the provisions of this Act; but this provision making it the primary duty of said Board of Pharmacy to cause such prosecutions shall not prevent the issue of warrant in the manner prescribed by law upon complaint of any citizen charging a violation of the provisions of this Act. In any proceedings under this Act the charge may be brought against any member of the partnership or firm, etc.

Sec. 4. All laws, and parts of laws, in conflict with this Act are hereby repealed: *Provided, however,* That such repeal shall in nowise affect any suit, prosecution or court proceeding pending at the date of the passage of this Act; all of which suits, prosecutions, or court proceedings pending at the date of the passage of this Act shall be tried and determined under the law which was in force and effect at the time of the institution of such suits, prosecutions, or court proceedings.

Sec. 5. Whereas any emergency exists, this act shall take effect immediately after it is passed and signed by the Governor.

45th Assen.

SENATE—No. 61

Jan. 1907

Introduced by Mr. Breidt, January 22, 1907.

Read first time, ordered printed and referred to Committee on Judiciary.

A BILL

For an act to amend an act entitled "An Act to revise the law in relation to coroners," approved June 4, 1889, in force July 1, 1889.

SECTION 1.—*Be it enacted by the People of the State of Illinois, represented in the General Assembly:* That an act entitled "An Act to revise the law in relation to coroners," approved June 4, 1889, in force July 1, 1889, be amended as follows:

28. EMBALMING OF BODIES—PERMISSION. Sec. 28. No undertaker or other person shall embalm or inject the dead body of any person with any fluid or preparation of any kind, before obtaining permission from the Coroner, where such body is the subject of a coroner's inquest. A violation of the foregoing section shall, upon conviction, be punishable by a fine of not exceeding \$50.00.

45th Assem.

SENATE—No. 69

Jan. 1907

Introduced by Mr. Billings, January 23, 1907.

Read first time, ordered printed and referred to Committee on Appropriations.

A BILL

For an act to provide for testing the sight and hearing of pupils in public schools.

SECTION 1.—*Be it enacted by the People of the State of Illinois, represented in the General Assembly:* That the State Board of Health and the State Superintendent of Public Instruction shall prepare or cause to be prepared suitable test cards, blanks, record books and other needful appliances to be used in testing the sight and hearing of pupils in public schools, and necessary instructions for their use; and the State Superintendent of Public Instruction shall furnish the same free of expense to every school in the State. The superintendent, principal or teacher in every school during the month of September in each year, shall test the sight and hearing of all pupils under his charge, and keep a record of such examinations according to the instructions furnished, and shall notify in writing the parent or guardian of every pupil who shall be found to have any defect of vision or hearing, or diseases of eyes or ears, with a brief statement of such defect or disease, and shall make a written report of all such examinations to the State Superintendent of Public Instruction as he may require.

Sec. 2. The State Auditor is hereby directed to draw his warrant on the State Treasurer for such sums and at such times as the State Superintendent of Public Instruction, with the approval of the State Board of Health, may require to carry out the provisions of this Act. The total expense under this Act shall not exceed five hundred dollars (\$500.00) in any one year.

45th Assem.

SENATE No. 85

Jan. 1907

Introduced by Mr. Gardner, January 29, 1907.

Read first time, ordered printed and referred to Committee on State Charitable Institutions.

A BILL

For an act to promote the care and curative treatment of the insane.

SECTION 1.—*Be it enacted by the People of the State of Illinois, represented in the General Assembly:* The State Commissioners of Public Charities are hereby required to divide the State into districts, for the purpose of regulating the admission of patients into state hospitals for the insane. The said Commissioners shall have power to change the boundaries of such districts, from time to time, as may be necessary or expedient: *Provided*, That any regulations which they may make on this subject shall not have the force of law until after they shall have been submitted to the Governor and approved by him.

Sec. 2. Whenever such division or regulation shall have been made and approved as aforesaid, the said State Commissioners shall forthwith make and sign a report to that effect, designating the boundaries of and the counties included within each district and the number of patients apportioned to each asylum, and file the same with the Secretary of State, and send a copy thereof to the trustees and superintendent of each State asylum, and to each county judge, and to the clerk of each county in the State, to be filed in his office, and thereafter the State shall for all the purposes of this Act be deemed to be delivered into such districts. Whenever any change in such classification or regulation shall thereafter be made and approved, a like report shall be made and filed, and a copy thereof sent to the county judges and to the clerks of all counties affected by such a change, as well as to the trustees and superintendents of the respective State Asylums.

Sec. 3. In order to carry out the intention of this Act, the State Commissioners of Public Charities are directed to ascertain from time to time, what vacancies, if any, exist in any one or more of the State insane asylums, and said Commissioners are hereby authorized and required to forthwith cause the removal to such asylum or asylums, from some one or more of the counties of the district to which said asylum has been assigned, under the provisions of this Act, as many of the insane patients in county asylums and almshouses as can be accommodated. Such removal to be made pursuant to the provisions of section 6 of this Act.

Sec. 4. To provide for the insane of the district in which each State asylum is situated, should the existing accommodations not be sufficient for this purpose, there shall be erected on the grounds of such asylum a sufficient number of buildings of a moderate size, each being designed to accommodate not less than ten nor more than one hundred and fifty patients. It shall be the duty of the trustees of each State asylum, within ninety days after they shall have received a copy of the report of the Commissioners of Public Charities, as provided in section 2, to cause to be prepared plans, specifications and estimates of the cost and equipment of such buildings, and to submit same to said Commissioners of Public Charities, and said Commissioners shall thereupon proceed to examine said plans, specifications and estimates, and shall have power to summon before them the superintendent of the asylum, on whose grounds the said buildings are proposed to be erected, for explanations and suggestions in regard to the same. When the plans of any proposed building or buildings shall have been

approved by said Commissioners, and appropriations for the purpose shall have been provided by the Legislature, the trustees shall cause to be erected and equipped, at the earliest practicable day, consistent with the best interests of the State, the building or buildings so proposed, and the cost of the same, including the necessary equipment for heating, lighting, ventilation, fixtures and furniture, shall in no case exceed the amount of the estimates therefor approved by said Commissioners. The cost of said buildings and equipment shall be paid by the Treasurer of the State on warrants of the Auditor from the sums appropriated by the Legislature for this purpose, upon vouchers of the trustees of the asylum where the buildings are to be erected; and these vouchers shall be made in accordance with the forms prescribed by the Auditor. Upon the completion of said buildings, the trustees erecting the same shall forthwith in writing certify this fact to the State Commissioners of Public Charities.

Sec. 5. After receiving such certificate from said trustees, the State Commissioners of Public Charities shall ascertain whether the buildings are ready for occupancy, and if they find them to be ready they shall forthwith direct the superintendents of the county asylums or almshouses in each county within the district, in which said State asylum so certified is situated, to send such number of insane patients to said State asylum as can be therein accommodated. Each of the State asylums for the insane shall receive patients, whether in acute or chronic condition of insanity, from the district in which the asylum is situated, subject to the power of removal from one State asylum to another under the provisions of section eight of this Act.

Sec. 6. All county authorities sending a patient to any asylum under the provisions of this Act, shall, before sending him, see that he is in the state of bodily cleanliness and is comfortably clothed, in accordance with regulations to be prescribed by the State Commissioners of Public Charities. The said patients shall be sent by said county authorities in the manner prescribed by said State Commissioners of Public Charities to the State asylum within the district embracing said county at the expense of the State, and any State asylum to which said patient is to be sent may be required, by and under the regulations made by said State Commissioners of Public Charities, to send a trained attendant to bring the patient to the asylum. In all cases there shall be provided a female attendant for every female patient, unless she be accompanied by her husband, father, brother or son. After said patient or patients has or have been delivered to the said State asylum, the care and custody of the county authorities over said insane person shall cease. The bills for the reasonable expenses incurred in the transportation of patients to the State asylums, after they have been approved in writing by the State Commissioners of Public Charities, shall be paid by the treasurer of the asylum on warrants properly drawn from the funds provided for the support of the State asylum.

Sec. 7. After sufficient accommodations shall have been provided in State institutions for all the pauper and indigent insane of all the counties of the State, the cost of clothing and other incidental expenses of county insane patients in State insane asylums shall not be a charge upon any county after the first of January next ensuing, but the cost of the same shall be paid out of the funds provided by the State for the support of the insane. It shall be the duty of the State Commissioners of Public Charities to determine whether the accommodations are sufficient within the purview of this section, and to hold a meeting for that purpose and if satisfied of the sufficiency of such accommodations, to make a certificate to that effect and file the same with the Secretary of State and send a copy thereof to the trustees and superintendents of each State and county asylum, and to each county judge, and to the clerk of each county in the State, to be filed in his office. Until such certificate is made and filed the said cost of clothing and other incidental expenses of county insane patients shall continue to be a charge upon the county as under existing laws.

Sec. 8. In case the buildings of any State asylum shall at any time become overcrowded in carrying out the provisions of this Act, or the number of said buildings be reduced by fire or casualty, the State Commissioners of Public Charities hereby are empowered in their discretion to cause the transfer of patients therefrom to another State asylum, where they can be conveniently received, or to make, in special emergency, shall be chargeable to the State and care, and all expenditures under this section shall be chargeable to the State and paid out of any appropriation made to carry out the provisions of this Act.

Sec. 9. Whenever in any district, established under the provisions of this Act, the buildings now existing and erected as herein provided for the use of the insane shall be filled with patients to their full capacity, the trustees thereof shall not receive further patients until vacancies occur, or new additional accommodations are provided, and then only to the extent of the accommodations supplied. In any such case the condition of the asylum, so far as pertains to the purposes of this section, shall be certified by the trustees thereof to the State Commissioners of Public Charities, whereupon said Commissioners shall, in compliance with rules to be made by said Commissioners and communicated from time to time to the county judges, county clerks, and the trustees of the respective State asylums, make an order for the transfer of any pauper or indigent patient from the district in which there are no suitable accommodations to one, if any, in which suitable accommodations for his care exist. Preference is to be given to an asylum in an adjoining rather than to one in a remote district. Such order shall be executed in a mode prescribed by the State Commissioners of Public Charities. The expenses of the transfer of said pauper patients to said asylums beyond the limits of the district where the patient is regularly to be cared for, shall be chargeable to the State, and the bills for the same, when approved by the State Commissioners of Public Charities, shall be paid by the Treasurer of the State on the warrant of the Auditor out of any moneys appropriated to carry out the provisions of this Act. In case any insane person, his relatives, guardians or friends may desire that he may become an inmate of any State asylum situated beyond the limits of the district where he resides, and there he sufficient accommodation there to receive him, he may be received there in the discretion of the State Commissioners of Public Charities and the superintendent of such asylum. Any expense of removal, in such case, must be borne by the said insane persons' guardians, relatives or friends, as the case may be.

Sec. 10. The State Commissioners of Public Charities, whenever they shall deem it necessary and expedient, by reason of overcrowding, or in order to prevent the same, shall, in their annual report to the Governor, recommend the erection of such additional buildings on the grounds of any or all State asylums then existing as shall, in the judgment of said Commissioners, provide sufficient accommodations for the intermediate prospective wants of the insane of this State; or, if said Commissioners deem it more expedient, they shall recommend the establishment of another State asylum or asylums in such part of the State as in their judgment will best meet the requirements of the insane.

Sec. 11. It is the intent and meaning of this Act that, when and after the State shall have been divided into districts, as herein provided, and sufficient accommodations in State institutions shall have been provided for all the insane of all the counties of the State, and certified, as set forth in the seventh section of this Act, no insane person shall be permitted to remain under county care, but that all the insane who are now, or who may hereafter become a public charge, shall be transferred to the respective State asylums without unnecessary delay, there to be regarded and known as the wards of the State, and to be wholly supported by the State.

Sec. 12. The State Commissioners of Public Charities shall hereafter furnish the Governor, on or before the first day of December in each year, an estimate of the probable number of patients who will become inmates of the respective State asylums during the year beginning January first ensuing, and the cost of the additional buildings and equipment, if any, which will be required to carry out the provisions of this Act. After the certificate as to sufficiency of accommodation shall have been filed as provided by section seven of this Act, the trustees of each of the State asylums shall, on or before the first day of December in each year, furnish to the Governor an estimate of the cost of maintaining the probable number of patients who will be inmates of the respective asylums during the year beginning January first next ensuing. On the basis of these estimates the Governor shall, in his next annual message to the Legislature, state his estimate of the amount to be provided for by the State for the support of such insane persons, and for the erection and equipment of such buildings as may be recommended.

Sec. 13. The foregoing provisions of this Act shall not apply to or include counties of over one hundred and fifty thousand inhabitants, except as provided in the succeeding section of this Act, nor shall it be construed to affect those provisions of existing statutes by which such counties aforesaid are now permitted to send their acute chronic insane to State asylums.

Sec. 14. Whenever the counties of over one hundred and fifty thousand inhabitants, or any one of them, desire to be included in the provisions of this Act, application may be made in writing to the Governor, by the respective county authorities in either of said counties, to transfer any or all of such buildings, land, appurtenances and equipment as are used by them as county insane asylums to the State for the same purpose. The Governor shall thereupon transmit said application to the State Commissioners of Public Charities, whereupon said Commissioners shall examine into the condition of such buildings, land, appurtenances and equipment, with a view to ascertain whether such property is suitable for the purposes of a State asylum for the insane; and shall report its findings and conclusions to the Governor. Whereupon, if the Governor shall approve the same, said county insane asylum shall be converted into a State asylum for the insane, the insane persons in said county asylums, and those received thereafter, shall be provided for in accordance with the provisions of this Act.

Sec. 15. The word "insane," as used in this Act, shall be construed to mean any person who, by reason of unsoundness of mind, is incapable of managing and caring for his own estate, or is dangerous to himself or others, if permitted to go at large, or is in such condition of mind or body as to be a fit subject for care and treatment in a hospital or asylum for the insane: *Provided*, That no person idiot from birth, or whose mental development was arrested by disease or physical injury occurring prior to the age of puberty, and no person who is afflicted with simple epilepsy shall be regarded as insane, unless the manifestations of abnormal excitability, violence or homicidal or suicidal impulses are such as to render his confinement in a hospital or asylum for the insane a proper precaution to prevent him from injuring himself or others.

Sec. 16. No insane person now or hereafter, under the care of any State asylum in this State, shall be returned or committed to the care of any county insane asylum or almshouse, or to any county, town or city authority; and the said county, town and city authorities are hereby forbidden to receive any such patient who may be returned or committed to them in violation of this section. The foregoing provisions of this section shall not apply to the counties, or to the county authorities of the counties named in section thirteen of this Act, except as to such county or counties, or the authorities thereof, as shall have transferred to the State their county insane asylums as provided in section thirteen of this Act.

Sec. 17. The State Commissioners of Public Charities shall secure from relatives or friends, who are liable or may be willing to assume the costs of support of inmates of State hospitals supported by the State, reimbursement, in whole or in part, of the money expended for such support; said Commissioners may appoint agents, whose duty it shall be to secure from relatives and friends who are liable therefor, or who may be willing to assume the costs of the support of any inmates, reimbursement, in whole or in part, of the money so expended. The compensation of each agent shall not exceed five dollars a day and the necessary traveling and other incidental expenses actually incurred by him to be approved by the Auditor of Public Accounts.

The said Commissioners may fix a rate to be paid for the support of the inmates of State hospitals by the relatives liable for such support, or by those not liable for such support but willing to assume the costs thereof, but such rate shall be sufficient to cover the proper proportion of the cost of maintenance and necessary repairs and improvements.

Sec. 18. When an insane person is possessed of sufficient property to maintain himself, or his father, mother, husband, wife or children are of sufficient ability to maintain him, and his insanity is such as to endanger his own person, or the person and

property of others, the conservator of such person, or such father, mother, husband, wife or children must provide a suitable place for his confinement, and there maintain him in such manner as shall be approved by the State Commissioners of Public Charities. It shall be the duty of the overseers of the poor, the county agents, and the State Commissioners of Public Charities to see that the provisions of this section are carried into effect in the most humane and speedy manner.

45th Assem.

SENATE—No. 91

Jan. 1907

AS AMENDED.

Introduced by Mr. Hall, January 29, 1907.

Read first time, ordered printed and referred to Committee on Education.

February 14, reported back to pass.

February 20, second reading, amended on third reading.

A BILL

For an act to provide for moral and humane education in the public schools.

SECTION 1.—*Be it enacted by the People of the State of Illinois, represented in the General Assembly:* That in every public school in the State of Illinois it shall be the duty of every teacher to teach to the pupils of such school honesty, kindness, justice and sobriety as tend to enable the character of school children and enable them to know how to conduct themselves as social beings, and to develop a sense of right and wrong for the purpose of lessening crime and raising the standard of good citizenship.

Sec. 2. That in every public school within this State not less than one-half hour of each week, during the whole of each term of school, shall be devoted to teaching to the pupils of such school kindness and justice to, and humane treatment and protection of, birds and animals, and the important part they fulfil in the economy of nature, and lessons drawn from their lives, habits and usefulness.

Sec. 3. That it shall be the duty of the Superintendent of Public Instruction of this State, and of the committee in charge of preparing the programme for each annual meeting of the Illinois State Teachers' Association, to include moral and humane education in such programme. It shall be the duty of the Superintendent of Schools of each county and the Superintendent of Schools of each city to include at least once each year moral and humane education in the programme of the teachers' institute that is held under his or her supervision.

Sec. 4. That no experiment upon any living creature for the purpose of demonstration in physiology or in any study shall be made in any public school of this State. Dissection of dead animals, or any portions thereof, in any public school shall be confined to such animals as have been killed for food, and no material which is provided by any pupil of a public school shall be used for the purpose of dissection in such school. Dissection in any public school shall be confined to the class-room and shall not be practiced in the presence of any pupil not engaged in the study to be illustrated thereby.

Sec. 5. That the principal or teacher in each public school of this State shall certify in each of his or her monthly reports that the provisions of this Act have been complied with in the school under his or her control.

Sec. 6. That no principal nor teacher in any public school in this State who knowingly violates any provision of section 4 of this Act shall be entitled to receive more than 75 per cent. of the public school moneys that would otherwise be due as compensation for services for the month in which such provision shall be violated, and that no principal nor teacher in any public school who knowingly fails to comply with any of the provisions of sections 1, 2 or 5 of this Act shall be entitled to receive more than 90 per cent. of the public school moneys that would otherwise be due as compensation for services for the month in which such provisions of the three sections last aforesaid shall not be complied with.

Sec. 7. Nothing in this Act shall apply to any medical, dental, veterinary, agricultural or normal school or to any college.

45th Assem.

SENATE—No. 109

Jan. 1907

Introduced by Mr. Gardner, January 30, 1907.

Read first time, ordered printed and referred to Committee on Appropriations.

A BILL

For an act making appropriations for the Illinois State Colony for Epileptics.

SECTION 1.—*Be it enacted by the People of the State of Illinois, represented in the General Assembly:* That the sum of two hundred and sixty-five thousand dollars (\$265,000) be appropriated to the Board of State Commissioners of Public Charities for the purpose of locating and constructing necessary buildings and maintenance of the Colony for Epileptics under the provisions of an act of the Forty-first General Assembly:

Approved—April 19, 1899.

Land and buildings	\$235,000
Maintenance till 1909	30,000
	<hr/>
	\$265,000

Sec. 2. The Auditor of Public Accounts is hereby authorized and required to draw his warrant upon the State Treasurer for the amount herein appropriated upon presentation of proper vouchers certified to by the Board of State Commissioners of Public Charities and approved by the Governor.

45th Assem.

SENATE—No. 4

Jan. 1907

Introduced by Mr. Glaekin, January 10, 1907.

Read first time, ordered printed and referred to Committee on Appropriations.

A BILL

For an act to provide for the location, erection, organization and management of a State sanatorium for persons afflicted with tuberculosis, making applicable thereto "An act to regulate the State Charitable Institutions and the State Reform School, and to improve their organization and increase their efficiency," approved April 15, 1875, and making an appropriation for the purchase of land, and the construction of the necessary buildings and the maintenance of the sanatorium.

SECTION 1.—*Be it enacted by the People of the State of Illinois, represented in the General Assembly:* That there is hereby established a State sanatorium for the care and scientific treatment of persons afflicted by tuberculosis, to be known as "The Illinois State Sanatorium." The provisions of an act entitled "An act to regulate the State charitable institutions and the State Reform School, and to improve their organization and increase their efficiency," approved April 15, 1875, and all general statutes governing the State charitable institutions, their trustees, officers and employes (except as herein otherwise provided) are hereby made applicable to the Illinois State Sanatorium, its trustees, officers and employes.

Sec. 2. For the purchase and location of a site for said sanatorium and the construction of the appropriate buildings to accommodate patients, officers and employes of said institution, with all necessary heating, lighting, water supply and drainage appliances, and all necessary furniture and furnishings and maintenance until the appropriations of the next General Assembly are available, there is hereby appropriated one hundred and fifty thousand (\$150,000) dollars to be paid, as herein provided, out of any moneys in the treasury not otherwise appropriated. The moneys herein appropriated shall be paid from the State treasury to the parties to whom they become due on warrants of the Auditor of Public Accounts; and the Auditor of Public Accounts is hereby authorized and required to draw said warrants for moneys due under this act upon the order of the board of trustees of said sanatorium, accompanied by vouchers approved by the Governor of the State as now required by law.

Sec. 3. The government of said sanatorium shall be vested in a board of five trustees, not more than three of whom shall be of the same political party, which shall be a corporation by the name of "The Illinois State Sanatorium." Within ten days after this act shall be enforced the Governor shall appoint five persons to be trustees of said sanatorium, two of whom shall be physicians, to hold office, respectively, one until the first day of March, 1907, two until the first day of March, 1909, and two until the first day of March, 1911. Their successors shall be appointed in the same manner and shall each serve six years, so that an appointment shall be made each second year and in every case a trustee shall hold office until his or her successor is appointed and qualified. All appointments, including the original appointments made by the Governor when the Senate is not in session, shall be valid until an appointment is confirmed by the Senate.

Sec. 4. The said sanatorium shall be under the immediate management and control of a superintendent to be appointed by said board of trustees and removed by said board of trustees when just cause for removal exists, whose salary shall be fixed from time to time by said board. Said superintendent shall be a graduate in medicine and surgery from some medical college recognized as in good standing by the State Board of Health, and of acknowledged skill in his profession, and must have had experience in the treatment of tuberculosis in hospital, sanatorium or extensive private practice. He shall appoint all subordinate officers and employes, except as hereinafter provided, with the assent of the board of trustees, and may discharge any subordinate for cause, by a written order stating such cause and delivered when practicable to such subordinate. The resident physician or physicians shall be selected by the board of trustees, and shall be subject to the authority and control of the superintendent, as in the case of other subordinates or employes; and their duties shall be to perform such medical duties in and about the care of the patients in the sanatorium as such superintendent may direct. The resident physicians are subject to the same rules of discharges as other subordinates and employes.

Sec. 5. The board of trustees shall appoint, annually, two consulting physicians, citizens of Illinois, engaged in active practice and known to be skillful diagnosticians and therapists, whose duty it shall be to visit the sanatorium whenever necessary, to examine and classify patients, supervise their medical care and treatment in the capacity of consulting physicians, and observe the general conduct of the institution in order that they may make suggestions to the board of trustees for the improvement of the efficiency of the institution in the care of patients. The salary of a consulting physician shall be fixed from time to time by the board of trustees.

Sec. 6. The superintendent and consulting physicians shall formulate such rules as they deem advisable regulating the admission of persons afflicted with tuberculosis to the Illinois State Sanatorium, keeping in view the fact that in the early stage the disease is curable and that the greatest good to the State is derived from the restoration to health and to their families the dependent sick: *Provided, however,* that the State Commissioners of Public Charities shall have power to divide the State into districts for the purpose of regulating the admission of patients to the sanatorium and to fix the quota of each county therein so as to secure equality among the counties and to promote their convenience in this regard. And the said commissioners shall have power to change the boundaries of said district from time to time as may be necessary or expedient: *Provided,* that any regulations which they may make on this subject shall not have the force of law until after they shall have been submitted to the Governor and approved by him: *And, provided, further,* that the Governor shall cause to be printed and distributed to the counties to be affected thereby, a sufficient number of copies of the schedule of districts and quotas approved by him.

Sec. 7. Said trustees, as soon as possible after their appointment and qualification, shall adopt a seal and organize by electing a president and secretary to serve for two years and until their successors are elected and qualified, and in conjunction with a committee of three members of the State Board of Health and the president or secretary of the State Board of Charities, select a site for said sanatorium in such part of the State as shall be best adapted to the wants of the institution and most economical to the State, having regard in the selection to elevation, climate, water supply, drainage, facility of access, quality of soil and price asked for the land, and said trustees may accept on behalf of the State any gifts in money, freights, lands or other property, but such donations shall not be received as the consideration for the location of the sanatorium at any particular place. Said site shall contain not less than one hundred and sixty nor more than two hundred and forty acres of land. When the trustees have selected a site and agreed with the owners upon a price which the State may purchase it, they shall report their action to the Governor and such selection shall take effect only when confirmed by the Governor.

Sec. 8. Before payment is made for the lands for which provision is made in this act, the seller or sellers shall furnish to the trustees an abstract of title which shall be submitted to the Attorney General for his examination and the Governor for his approval, and no money shall be paid for the said lands without perfect conveyance of title in fee simple to the State of Illinois by warranty deed.

Sec. 9. The said trustees are directed and required to inform themselves upon the construction and methods of management of other sanatoria in the United States and abroad, and after full inquiry to cause to be prepared suitable plans and specifications by the State Architect, but no plans shall be adopted by the trustees which shall not have first been approved by the Governor and the Board of State Commissioners of Public Charities. The said plans shall be accompanied by specifications and by a detailed estimate of the amount, quality and description of all materials and labor required for the erection and full completion of the buildings according to said plans.

Whenever the said plans and specifications shall have been approved and adopted, the trustees shall cause to be inserted in at least one of the daily newspapers in each of the following cities, to-wit: Chicago, St. Louis, Milwaukee and Indianapolis and the city or town at or near which the said institution shall be permanently located, and in such other newspapers that the trustees may deem advisable, an advertisement for sealed bids for the construction of the buildings herein authorized, and they shall furnish a printed copy of this act and of the specifications to all parties applying therefor; and all parties interested who may desire it shall have free and full access to the plans with the privilege of taking notes and making memoranda. And the said trustees shall answer all questions addressed to them upon the subject of proposed buildings to the best of their ability and belief.

Sec. 10. No less than thirty days after the publication of the said proposals for bids, on a day and at an hour to be specified in said advertisement, at the place where the said institution shall be located, in the presence of the bidders or so many of the bidders as may be present, the bids received shall be opened for the first time and the contract for building shall be let to the lowest and best bidder. *Provided*, that no contract shall be made and no expense incurred in any building or buildings required for the completion of the same at greater expense than is provided for in the appropriation in this act.

And, provided further, that no bid shall be adopted which is not accompanied by a good and sufficient bond, payable to the people of the State of Illinois, in the penal sum of double the amount of the contract price, signed by at least three good and sufficient sureties, conditioned as a guaranty for the responsibility and good faith of the bidder, and that he will enter into contract and give bond as provided in this act in case his bid is accepted.

Sec. 11. The contract to be made with the successful bidder shall be accompanied by a good and sufficient bond, to be approved by the Governor before it is accepted, conditioned for the faithful performance of his contract, and the said contract shall provide for the appointment of a superintendent of construction who shall be paid a salary to be fixed by the board of trustees, and who shall carefully and accurately measure the work done each month, and the materials upon the ground at least once each month, and for the payment of the contractor upon the aforesaid measurements, and for the withholding of fifteen (15) per cent. of the value of the work done and the materials on hand until the completion of the building or buildings; and for the forfeiture of a stipulated sum per diem for every day that the completion of the work shall be delayed after the time specified in the contract, and for the protection of all persons who may furnish labor or materials as aforesaid, directly for all work done or materials furnished by them. In case of notice given to the trustees that any such party apprehends or fears that he will not receive the money due, and for the settlement of all disputed questions as to the value of alterations and extras by arbitration at the time of the final settlement as follows:

One arbitrator to be chosen by the trustees, one by the contractor and one by the Governor of the State, all three of said arbitrators to be practical mechanics and builders; and for the power and privilege of the trustees, under the contract, to order changes in the plans at their discretion and to refuse to accept any which may be done not fully in accordance with the letter and spirit of the plans and specifications, and all work not accepted shall be replaced at the expense of the contractors and for deduction from the contract price of alterations ordered by the trustees which may and do diminish the cost of all buildings. They may also make such other provisions and conditions in said contract not herein above specified as seen to them necessary or expedient, consistent with the letter and spirit of this section. In no event shall the State be liable for a greater amount of money than is appropriated.

Sec. 12. The said contract shall be signed by the president of the board of trustees, on behalf of the board, after a vote authorizing him to so sign shall have been entered upon the minutes of the board, and it shall be attested by the counter signature of the secretary of the board and by the seal of the institution.

The said contract shall be drawn in triplicate. And one copy of the same shall be deposited in the office of the Board of State Commissioners of Public Charities.

Sec. 13. All bids shall show the estimate cost of the work to be done of each description in detail and the trustees shall have the right and power, at their discretion, to accept bids for particular portions of the work if for advantage of the State; and all measurements and accounts as the work progresses shall show in detail the amount and character of the work for which payment is made.

Sec. 14. No trustee or officer of said institution shall in any way be interested in said site or any contract for the erection of said buildings or furnishing any material for said buildings, or any furnishings therein or supplies for said institution; and if any such trustee or officer shall be so interested he shall be deemed guilty of a misdemeanor and on conviction thereof be fined in any sum not exceeding ten thousand dollars (\$10,000.00).

45th Assembly.

HOUSE—NO. 275.

February, 1907.

Introduced by Mr. Schermerhorn, February 13, 1907.

Read by title, ordered printed and referred to Committee on Judiciary.

A BILL

For an act to amend Section fourteen (14) of "An Act in regard to Garnishment," approved March 9, 1872, in force July 1, 1872, as amended by act approved May 11, 1901, in force July 1, 1901.

Section 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly:* That Section fourteen (14) of an act in regard to garnishment as amended by an act approved May 11, 1901, in force July 1, 1901, be and is hereby amended to read as follows:

Sec. 14. The wages for service of a wage earner, who is the head of a family and residing with the same, to the amount of ten (\$10.00) dollars per week shall be exempt from garnishment. All above the sum of ten (\$10.00) dollars per week shall be liable to garnishment.

Every employer shall pay to such wage earner such exempt wages not to exceed the sum of ten (\$10.00) dollars per week of each week's wages earned by him, when due, upon such wage earner making and delivering to his employer, his affidavit that he is such head of a family and residing with same, notwithstanding the service of any writ of garnishment upon his employer, and the surplus only above such exempt wages shall be held by such employer to abide the event of the garnishment suit. If the amount of wages subject to garnishment shall not equal the cost of the garnishment, whatever remains of cost shall be paid by the person bringing the garnishment proceedings, and judgment shall be entered therefor against him, and no judgment for any such deficiency of cost shall go against the wage earner or the defendant. No employer so served with garnishment shall in any case be liable to answer for any amount not earned by the wage earner at the time of the service of the writ of the garnishment. Before bringing suit a demand in writing shall first be made upon the wage earner and the employer for the excess above the amount herein exempted, and a copy of such demand shall be left with him and the employer, having endorsed thereon the time of service, at least twenty-four hours previous to bringing such suit. Such notice shall be filed with the justice, or clerk of the court, with the manner and time of the service of same endorsed thereon, and the return duly sworn to before some officer authorized to administer oaths, before it shall be lawful to issue a summons in such case, or to require an employer to answer in any garnishee proceedings. Any judgment rendered without said demand being served upon the wage earner, and so proven and filed as aforesaid shall be void. The excess of wages shall be held by the employer, subject to garnishment by the creditor serving demand, for five (5) days after such service of demand.

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ORIGINAL ARTICLES

A NEW TREATMENT FOR TRIFACIAL NEURALGIA, WITH REPORT OF CASES; A PRELIMINARY REPORT.*

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CHICAGO.

By the above title I do not wish it to be understood that the method to be spoken of is of my own devising. Somewhat less than a year ago I had an opportunity of seeing some of the patients treated by Lévy and Baudouin of Paris and of witnessing Dr. Lévy treat one patient. The results are so good and the procedure so simple that immediately on my return, some six months ago, I proceeded to give it a trial.

Without entering into the history of the treatment of trifacial neuralgia by means of injection of various substances, I will briefly state that a few years ago Schlösser of Munich proposed and carried out deep injections of alcohol, that the technique was modified and carried out very successfully by Ostwalt, and that Lévy and Baudouin devised the method which I have been using.

The substance used is alcohol, beginning with a strength of about 70 per cent. and gradually increasing it to 90 per cent. To this is added a little cocain or stovain to obviate any immediate pain or discomfort caused by the injection. They recommend, and I at first used, some morphin in the solution, but I soon gave this up, as the pain of the injection is slight and continues but a few minutes. Besides, the morphin nauseated two or three patients.

The technique is exceedingly simple. The instrument used is a needle of large caliber and about 12 centimeters long, marked off in centimeters up to five, beginning at the point. The needle is fitted with a stylet of such a length that when pushed home the end is flush with the point of the needle. (See figure, which is about two-thirds size of needle.) For the injection a syringe holding two cubic centimeters is employed, the nozzle of which will fit snugly into the end of the needle.

* Read before the Chicago Medical Society, March 6, 1907.

For the third, or inferior maxillary branch of the fifth nerve, the needle is inserted at the lower border of the zygoma, $2\frac{1}{2}$ centimeters in front of the anterior border of the external auditory meatus. The bony ridge of the temporal bone, as well as the descending root of the zygoma, can always be felt along the front border of the meatus. The stylet is partly withdrawn, the point of the needle pushed through the skin and subcutaneous tissue and the stylet is then pushed home so that for the remainder of the penetration the blunt end of the stylet serves instead of the sharp point of the needle. This is to prevent the possible transfixion of blood vessels. The needle is then pushed inwards in a plane at right angles to the side of the face and inclined a little backwards to a depth of 4 centimeters. At that depth the point should reach the inferior branch of the fifth nerve as it emerges from the foramen ovale. The stylet is then withdrawn, the syringe fitted to the needle and the injection slowly made.

For the middle branch, or superior maxillary division of the fifth, the point of entrance is at the lower border of the zygoma, $\frac{1}{2}$ centimeter posterior to the point which would be reached by prolonging downward the line of the posterior border of the perpendicular process of the malar bone. From this point the needle is passed almost perpendicularly in-



ward, being inclined slightly forward and upward. At a depth of 5 centimeters the point should reach the nerve at its emergence from the foramen rotundum into the spheno-maxillary fossa. Up to the present I have treated six cases, which are very briefly as follows:

CASE 1.—A single lady of 43 years who had had typical trifacial neuralgia for the last eight or nine years. She had had the usual intermissions, one for as long as a year and a half, but for several years had not had an entire day free from pain. The pains were started in the characteristic way by touches upon the face, by eating, drinking, talking, etc. She received the first injection on Aug. 3, 1906, and, although she was treated again on the 6th and 9th, she has not had a single pain since the first injection.

CASE 2.—A lady about 40 years of age began to have trifacial neuralgia in 1890. Since that time she has received all manner of non-operative treatment, sometimes with no effect whatever, sometimes with relief for several weeks or months. For the last few years she has been almost a constant sufferer in spite of all that could be done. She received the first deep injection on September 31 and has not really suffered since that time, but, although she received further injections on September 24, October 11 and 18, November 13, January 16 and 24 and February 4, there have been times since the first injection when she had gentle reminders of her old trouble. She has had no pain since the injection of January 16. She takes no precautions whatever for avoiding the pain;

exposes the face to all kinds of weather without protection, eats and drinks and talks and scrubs the face *ad libitum*.

CASE 3.—A man of 62 years began to have trifacial neuralgia three and a half years ago. After a period of suffering the pain left and he had a free interval for nearly two years, when it returned with increased violence. On Dec. 8, 1905, the lower jaw was trephined and a piece of the nerve excised and the nerve was also divided at the mental foramen. Two weeks later the pain returned. On medicinal treatment he then improved for a time, but in July, 1906, the old trouble recurred worse than ever. He received peripheral injections of alcohol at the site of the old operation with no benefit. A week later a surgeon gave him the osmic acid treatment of all three branches, which afforded relief for less than three weeks. He received the first deep injection of alcohol on October 10 and injections for either the middle or inferior branch on October 12, 16 and 29, November 18 and 30, January 4, 7 and 20, nine injections in all. He has had practically no discomfort since the first injection, but had occasional slight twinges and three or four severe pains up to about the last of November. Since that time he has been entirely free.

CASE 4.—A fireman of 51 began to have neuralgia of the right middle branch of the nerve nine years ago. Since that time he has had one free interval of four years, and the case has not been an exceedingly severe one, though perfectly typical.

He received the first injection on December 17, which entirely relieved him and, contrary to instructions, he did not return for further treatment until the pain recurred one month later. He received further injections on January 17 and 22, since which time he has been practically well, but I thought it prudent to give him further treatment on January 27, February 3, 10 and 17. At present he is entirely free from pain, can expose the face freely to cold winds and mechanical irritation, and has gained six pounds in weight. I think the gain in weight is simply due to the fact that he can eat as frequently and as much as he likes without starting the pain.

CASE 5.—A thin, anemic, delicate woman of 62 years, with a dilated stomach, was first seen Jan. 1, 1907. She had had typical trifacial neuralgia for four years, and at the time of her first visit was suffering intensely. She came in with the head all wrapped up to protect it from even the slightest breath of air. She received an injection at once, with instant relief, and after the first injection it was impossible to start the pain by any sort of peripheral irritation. She was unable to return for further treatment until two weeks later, but since the first treatment has had absolutely no pain. She received further injections on January 13, 17, 22 and 27.

CASE 6.—A woman of 44 years began to have facial neuralgia in the summer of 1901. From that time until early in 1904 she received various kinds of treatment with but very little success. In February, 1904, she received the osmic acid treatment at the hands of an expert with this method, and, with the exception of a couple of short relapses, she was free from pain until the summer of 1905. On September 15 she again

received the osmic acid injections in a most thorough manner and was again free from pain, except for a few days, until the fall of 1906. She received the first deep injection of alcohol on January 19. This injection was an entire failure, as I failed to reach the nerve. The cause of this was that the coracoid process of the inferior maxilla extended so far forward that the nerve could not be reached from the usual point of entrance. The next day I repeated the injection, inserting the needle about one-half centimeter further forwards, and she has had no real pain since this second injection. She has received injections, some for the middle and some for the inferior branch, on January 22 and 29, February 4, 12, 19 and 26 and March 5, nine in all.

Concerning the future of this treatment I do not wish to hazard a definite opinion. It does not seem reasonable to suppose that injections of alcohol will radically cure trifacial neuralgia. That these injections will hold the disease in abeyance up to a year or more is certain. The operation, if such it may be called, is practically devoid of danger, requires no anesthetic and is not difficult to learn. In the great majority of cases it affords immediate relief and the patient may go about his business within a few minutes after the injection is made. The only really unpleasant result or complication that I know of is the possibility of passing the needle into the posterior pole of the orbit. Lévy and Baudouin state that they have perpetrated this inadvertence or inaccuracy, and I have once done the same thing. This occurred when I gave the last injection to the last patient, and the only bad result so far as I know was a very unpleasant edema of the upper eyelid so that the eye was entirely closed and the patient much distressed about it for a couple of days. Lévy and Baudouin state that in one case putting the injection into the orbit caused a paresis of the external rectus of the eye for a few days.

34 Washington Street.

DEFECTS OF VISION AND HEARING IN THE PUBLIC SCHOOLS.*

J. WHITEFIELD SMITH.

BLOOMINGTON, ILL.

IMPORTANCE OF THE SUBJECT.

The medical profession throughout the United States, and particularly in our own great commonwealth, seems to be in the midst of a revival of education. Not only in scientific research, that is of interest to themselves, but in matters that command the attention of the entire citizenship of the state. The laity is being informed in a way that it never has been before on medical and hygienic questions that are of supreme importance. I need only call your attention to the grand work that is being done in this state in the matter of tuberculosis to convince you of the truth of this statement. The intelligent members of the profession everywhere are engaged in this popular education, and the fruits of their

* Read before the Illinois State Medical Society, May, 1906.

labors are being realized by a more enlightened and appreciative public.

Recently the Tuberculosis Institute of Chicago was incorporated, which contemplates an educational department to carry on the campaign of public instruction regarding tuberculosis by means of lectures and the distribution of printed information. The State Board of Health has been very efficient in disseminating literature on this subject, calling attention to the importance of this question to state officers and to the officers of the municipalities throughout the state. Local physicians in the different cities of the state have delivered lectures before school boards and teachers' conventions on this important subject, with the result that the laity is being informed and have something of an intelligent idea of tuberculosis and of precautionary measures and the methods in use tending to stamp it out.

All of this is the result of education—medical education, coming from the authority of an intelligent profession. But, gentlemen of this society, this is not the only question, important as it is, that demands broad-minded consideration by the medical profession. There are many others, and the one to which I wish to direct your attention is not among the least of them. The future of this great republic necessarily must depend upon the youth of our land. We who are actively engaged in the duties of life at present shall sooner or later pass off the stage of action and the rising generation shall take our place. It seems to me that we have no higher national duty nor greater responsibility or obligation to perform than to make the succeeding generation as efficient in every sense of the term as it is possible.

This, no doubt, can best be accomplished by giving them the benefits of a liberal education—an education that is broad and general in its foundation and far-reaching in its ultimate attainment. It is true that the duties of the hour, as physicians and surgeons, engage our time and attention with the necessities and emergencies of life which are constantly arising, but we also should be possessed of that altruistic spirit which looks beyond the present needs, and, in making our own lives worth the living, protect and safeguard the lives, health and comfort of our school children. If a cruel inheritance or an unavoidable environment has subjected them to an unnecessary bondage or restraint, or has abrogated their intellectual opportunities, or has placed them at a disadvantage in the acquirement of an education, I look upon it as the duty of the medical profession to inform the public mind so that the proper means may be intelligently employed to correct the conditions in so far as it is possible.

STATISTICAL REPORT.

According to the report of the Commissioner of Education, 1903, there were 16,009,361 children enrolled in the public schools of the United States. Illinois, which is the third state in point of enrollment, had 969,414, of which 487,191 were boys and 482,223 were girls. It is fair to assume at present that there are about 1,000,000 school children enrolled in the public schools of Illinois. This estimate does not include

the children and pupils of the following: Physical training schools, industrial schools, technical schools, normals, colleges, universities, parochial schools, agricultural and mechanical schools, reform schools, etc. Beside, in our foreign possessions, the provincial schools are under the public school system, with the following estimates: In the Philippines there are about 2,000 primary schools with an enrollment of 150,000. Hawaii has 56 schools with 5,413 children, and Cuba has 355 schools with an enrollment amounting to 143,085. According to the estimation of the press, there are 1,800,000 school children in Illinois that are enrolled in the various educational institutions, including the public schools.

THE PRESENT CONDITIONS.

This question has received some consideration by the profession of the state and has been presented to the Illinois State Medical Society and also came before the American Medical Association, and some steps have already been taken in the right direction toward its solution. At a meeting of the Illinois State Board of Health, held in Chicago in July, 1900, it was deemed essential that some action be taken by the board to protect the sight and hearing of the school children of the state, and a committee was appointed to consider the matter at length and to report to the board at a later meeting.

The attention of the State Board of Health was directed to this matter by the facts found by the Child Study Department of the Board of Education of the City of Chicago. This department made a systematic examination of the vision and hearing of the school children of the city and found that 32 per cent. of the boys and 37 per cent. of the girls in the schools have defective vision, falling two-thirds below the normal, and that this number grows steadily larger from the beginning to the end of school life; also, that many apparently dull pupils are only so because they are suffering from defects of vision. The committee was impressed with methods that they investigated, and a plan of examination was strongly urged, the committee recommending that these examinations be made in every school in the State of Illinois. The board unanimously approved the recommendations of the committee. The plan of examination proposed consists of a brief and simple examination of each child's eyes and ears once a year by the school teachers.

The examinations, while practical in character, are made in the simplest manner possible, and are thoroughly unobjectionable in every way. The teacher simply asks ten questions, which disclose the existence of important eye or ear diseases. The examination is so simple that the teacher can easily examine a child in five minutes. The teacher will, of course, be unable to specify the character of the child's affliction, but she will learn that a defect exists, which is sufficient. The remainder of the investigation must be intrusted to a physician. If the questions and answers disclose the existence of some eye or ear defect in the pupil the parent is notified by a card of warning. This card merely states that an eye or ear defect is believed to exist, and the parent is earnestly re-

quested that the matter be attended to, as the existence of such defects necessarily retards school progress and militates against the well-being of the child. Action by parents is not compulsory, but no parent is apt to disregard this advice. If medical advice is necessary the parents are, of course, at perfect liberty to consult any physician whose services they desire.

It is believed by the State Board of Health that if this plan is adopted throughout the state it will necessarily be of immeasurable benefit to school children, as the eye and ear diseases will be disclosed that may be benefited by proper treatment, and children will, therefore, be placed in better condition to commence the battle of life and acquire a desirable education. The State Board of Health, therefore, trusts that school authorities will see that this practical, simple, inexpensive, unobjectionable and efficient method of caring for the eyes and ears of school children throughout the state be adopted in all public schools in the State of Illinois. The State Board would also ask that a report may be made to the secretary by each school, of the number of children examined and of the number presenting defects of vision or hearing.

RESPONSIBILITY OF THE PROFESSION.

From the foregoing it is evident that a large percentage of school children are defective in vision and hearing. In most cases these defects can be remedied. The reason that so large a number are neglected is for want of information. It would seem that in view of the importance of the subject that the medical profession has a two-fold duty to perform. First, to educate the public mind by directing attention to the necessity of the question; second, to urge upon the school superintendents, boards of education and teachers in the public schools the importance of their co-operation in bringing to notice these defects and assisting in placing the responsibility intelligently before the parent or guardian.

Children with visual or aural defects can not perform the duties assigned them by their teachers; but it is not the purpose of this paper to discuss this phase of the subject. I am under many obligations to Dr. George H. Gorham of Bellows Falls, Vt., who is secretary of that State Society, for a concise report on this subject.

The following is an abstract of the report: Of the 2,064 schools of the state, in which there were 41,373 children examined, 11,104 were found to have defective eyes and 750 to have defective ears. This report shows 26 per cent. defective in vision and 1.8 per cent. with disturbances of hearing. In this connection I may say that examinations, also, were made of the nose and throat, in which a large percentage were afflicted. In view of these facts and figures, I should like to present the following for the consideration and indorsement of the Illinois State Medical Society, as a measure looking forward to the protection of the vision and hearing of the million of our school children, of which 250,000, at least, by careful and conservative estimate, demand such protection.

PROPOSED ENACTMENT.

AN ACT PROVIDING FOR THE CARE OF THE VISION AND HEARING OF PUPILS IN THE PUBLIC SCHOOLS.

Section 1.—The State Board of Health and the Superintendent of Public Instruction shall prepare or cause to be prepared necessary test cards, blanks, record books, and such other appliances as may be needed to test the vision and hearing of pupils in the public schools, together with instructions for their use; and the Superintendent of Public Instruction shall furnish the same, through the office of the County Superintendent, free of expense, to every school in the state.

The Superintendent of Schools, principal, or teacher in every school of the state, during the first month of the term of each school year, shall test the vision and hearing of all pupils under his charge and keep a record of such examinations, in conformity with the instructions furnished; and shall notify in writing, by filling out a blank provided for this purpose, the parent or guardian of every pupil who shall be found to have any defect of vision or hearing, or any disease of the eyes or ears, and shall make a written report of all such examinations required, the same to be sent to the Superintendent of Public Instruction, to be placed on record.

Sec. 2.—The State Auditor is hereby directed to draw his check on the State Treasurer for such sums, and whenever required, as the Superintendent of Public Instruction, with the approval of the State Board of Health, may request, to carry out the provisions of this act. The total expense under this act shall not exceed \$1,000 in any biennial term, ending June 30.

Sec. 3.—This act shall take effect within ninety days after the bill becomes a law.

INFLAMMATION OF THE GALL-BLADDER AND DUCTS.

H. A. MILLARD, M.D.

MINONK, ILL.

The impetus for my consideration of this subject is the unusual number of cases of this trouble that have presented themselves for treatment during the last four months. The most of the patients were under middle age; none, however, younger than four years of age, and only two more than forty-five years old. The onset of the trouble was kaleidoscopic and the course of the disease varied from mild to one of moderate severity in all but one, which is still under treatment, recovering without operation. The duration of the trouble was, as a rule, from five to fourteen days, one case running twenty-eight days, and one, still under treatment, and who declines operation—except as a last resort—has been afflicted for three months. In most of the cases where the burden of the affection seemed to fall on the gall-bladder the onset was quite sudden and violent. The first symptom would be pain in that region, of a colicky nature; vomiting of bile in considerable quantities, and a temperature of 101° to 104°. In other cases the disease was ushered in with a distinct rigor, followed by about the same temperature, and severe pain in the back and legs. These cases would generally proceed to recovery in from five to eight days.

In cholangitis the onset was generally quite different. In many cases the nausea and vomiting would be the initial symptom of the complaint. This was persistent and unyielding, although but little bile would be ejected. The pains were of a heavy aching character, distributed over the greater portion of the hepatic region, and tenderness, especially on deep

pressure, could be elicited over the greater portion of this area. In two cases pain in the lumbar region was quite severe. Fever would follow the vomiting in from twelve to twenty-four hours, and would seldom go above 101° . In one case, however, a temperature of 103° was recorded. These cases usually did not recover in less time than two weeks, and in many of them sweating profusely at night and on slight exertion, as some of them were not confined to bed all the time. Frequently there was a secondary fever, beginning from the fifth to the seventh day and lasting from two to five days. If this rise of temperature subsided quickly, recovery would generally be rapid, but if it continued it marked the invasion of the hepatic parenchyma by the inflammatory process.

In cholecystitis jaundice was frequently absent, and when it did make its appearance it was liable to be as late as the fourth to the sixth day of the disease. But in cholangitis it was generally present early in the trouble in some degree, varying from a slight tinge of the conjunctiva to an extreme yellowness of the entire surface of the body.

The urine was generally diminished in quantity; specific gravity about 1025, and would contain bile when the affection was of the bile ducts. The percentage of urica was generally increased, but the total excretion was considerably diminished. In a few cases the total amount of urine was increased to four or five pints, when the percentage as well as the total excretion was greatly diminished. In one of the most severe cases the urica remained about normal, but the total solids were very much diminished. A few broad hyaline and granular casts, the granular predominating, were found in many of the cases. A trace of albumin was frequently found, but it was never abundant. In several cases an erythema or urticarial eruption was complained of.

In all of the cases constipation was a prominent symptom, and in the cases of cholangitis it was generally very obstinate. Following the administration of cholagogues and saline cathartics, the stools would be lumpy, mostly liquid, of a green color, and contain large quantities of mucus, and were of a very foul odor.

It is still a moot question as to how the infection reaches the biliary infective origin; as none of the cases came to postmortem or to operation, no positive conclusion as to the nature of the infection could be arrived at. In the few cases where an examination of the feces was made, only the colon bacillus could be found.

It is still a moot question as to how the infection reaches the biliary channels, whether through the portal circulation, the arterial system, or through the intestines by way of the common duct. I am inclined to believe the latter theory to have been the correct one in my recent experiences, as the only illness which preceded the onset of the trouble in any of the cases was an acute attack of dysentery, and this I considered as merely coincident, as it was by no means common. When the trouble follows immediately, or occurs during the course of some of the infectious diseases, the infection is probably transmitted by means of the circulatory system. In the more severe cases, pericholangitis and pericholecystitis may occur, resulting in pus formation in the liver tissues, and through the im-

mediate or mediate relations, the stomach, intestines, pancreas, the kidneys, the diaphragm, the pleura, and the pericardium may participate in the complications.

During the acute stage of the trouble there was generally complete anorexia. Later in the course of the disease, and in some cases continuing ten days or two weeks, there were troublesome digestive and nutritional disturbances, principally those resulting from achylia, for in the majority of cases of cholangitis the organ very slowly resumed its normal functional activity. For this reason fats are poorly taken care of and in consequence the system is deprived of the nutritive value of the same. Other foods which are changed by pepsin pass into the intestinal canal still under its influence, in which state they cannot be assimilated, and consequently produce fermentation, because of insufficient bile having been produced to completely arrest the peptonizing process and allow the pancreatic ferments to do their work, the action of one being inimical to that of the other.

The only cause to which I can attribute the prevalence of the disease is the unusual amount of excessive heat of the past summer. This, by producing circulatory and nervous disturbances, has made infection more easy, by causing excessive perspiration, and thus decreasing the internal secretions and excretions. The latter are decomposed, toxins are produced, which are absorbed, and the liver, being the scavenger of the body, receives the burden of the battle.

In cholangitis, when caused by partial obstruction of the common duct by calculi, there will be paroxysms of pain, not very severe, followed by the well-known symptoms of "hepatic malaria," the cycles of which may be repeated quite regularly for several days. When the process has reached the suppurative stage, pus, mucus and thickened bile will be discharged from many or all of the hepatic ducts. If any of these should become occluded, paroxysms of pain similar to those caused by calculi will be experienced and the general condition will be one of sepsis. If the obstruction continues, whether caused by a stone or a plug of mucus, an abscess will develop in the parenchyma of the liver.

It is within the memory of physicians that these inflammations were supposed to be caused only by the presence of stones in the gall-bladder or gall-ducts, and that this frequently is the exciting cause which brought the condition from a latent state to one of activity there can be no question; but recent observations have to some extent reversed the order of things and demonstrated the fact that without some previously existing inflammatory condition there would seldom, if ever, be any gallstones, since they are now found to be present in all forms of liver trouble in only about twenty-five per cent. of the cases, and it is also known that they can and do exist in the bladder and ducts for years without producing symptoms.

In the subacute form of cholecystitis there is constant sensitiveness of the gall-bladder, and the recurrent attacks of colicky pains constitute a very prominent symptom, and some fever usually follows these paroxysms. The pain is probably due to muscular spasm caused by over-distension of

the gall-bladder. These attacks so closely resemble biliary colic that they have been operated on as such, only to find the bladder filled with mucus and bile, and the mucous membranes swollen and inflamed. About sixteen per cent. of these cases that come to operation are found to contain no calculi. When obstruction of the duct is complete, the bladder will become distended and the pains will be almost as severe as those caused by stone and acute empyema or gangrene of the gall-bladder will result.

ETIOLOGY AND PATHOLOGY.

That this infection is also an etiological factor in the production of cholangitis is evidenced by the multiple hepatic abscesses so frequently encountered in the tropical countries following attacks of dysentery. I believe there is also a toxic form of the trouble caused by absorption of the excreta of the liver when the normal function of the organ is interfered with by either some systemic disturbance, or the pathological sequelæ of some previous infectious disease. For instance, malaria, which may be followed by a necrosis of the hepatic parenchyma, and an occlusion of the capillaries by a destruction of their endothelium, with a deposit of pigments within and around them, and thus encroach upon the lumen of the bile ducts and decrease their excretory and carrying capacity. When to this condition is added an increase of blood pressure due to some febrile condition, perhaps only a transient illness, there will be produced an apparently typical malarial paroxysm, perhaps only one, or possibly several such paroxysms may appear at intervals of twelve to forty-eight hours, depending on the time required to remove the exciting cause. These cases are frequently met with in Central Illinois, especially among the older people, who were early settlers here and victims of the malarial fevers of those days. These attacks are sometimes called malarial and are frequently referred to as evidence to disprove the modern theory of the origin of malaria. I have not yet been able to find the plasmodium in the blood of any of these patients, and anti-malarial treatment was not required in any of them to intercept the paroxysm; in fact, such treatment generally had no effect on them. The only treatment necessary was the administration of cholagogues and such antiphlogistic remedies as were indicated for the relief of the acute illness.

The location of the referred pains in these cases has been varied, and by a consideration of the nerve supply of this organ we can readily understand how this can be. Being liberally supplied by the three systems, the cranial, the spinal and the sympathetic, it is evident that the whole economy must participate, more or less, in the consequences resulting from a cessation or perversion of its functions. The sympathetic nerves are derived from the hepatic plexus, which is an offset from the celiac plexus and that from the solar plexus. The pain will be felt deep in the dorsal region and in the renal region, because of the junction of the lesser splanchnic nerve with the celiac plexus and its connection with the greater nerve of the same name. The cranial system is represented by the pneumogastric nerves, by which means we get the characteristic head symptoms, and along the course of the nerves through the thoracic cavity

we may get pains around the left lung in the central part of the thoracic region, and in the stomach and spleen, because of the filaments of the left pneumogastric that join the hepatic plexus. Pain under the right scapula and in the pleura, resembling pleurisy, only the pains are not so sharp, around the heart and in the diaphragm, are transmitted through the phrenic nerves to the spinal system.

Many times these pains are the only cause of the patients' seeking medical aid, thinking they have heart or lung trouble. These nerves also communicate with the sympathetic system in the chest cavity and in the hepatic plexus, and also send filaments to the suprarenal capsules. Having thus so wide an area of distributing its manifestations, it is easy to understand that difficulties will arise in differentiating between this and a number of other complaints.

The different forms of these inflammations are chiefly different stages of their destructive processes. I have previously expressed the opinion that the presence of gallstones is due to some previous affection of the biliary tract, and not in themselves a distinct disease, the trouble caused by their presence is chiefly mechanical, the condition which produced them having been removed or restored to a period of latency. When the illness is caused by stones in the gall-bladder, the attacks are of shorter duration; we may be able to find calculi in the feces, and the health of the individual is not so extensively and continuously impaired as in cholecystitis. In the contracted gall-bladder which follows in due course of time if relief is not obtained, the contents are absorbed, the fibrous elements of the tissues develop, the organ gradually shrinks to a small fraction of its normal size, it refuses longer to be a receptacle for the secretions, and the once functioning organ is now a mass of dense fibrous adhesions which only a cholecystectomy can relieve. As a result of the inflammation, adhesions may form rapidly and the passage of gas and feces arrested for the time, closely simulating ileus, which is not an impossible complication. In empyema of the gall-bladder the septic symptoms are prominent and continuous.

Probably chronic appendicitis is the cause of the infection that leads to the catarrhal cholecystitis which produces the gallstones. This result seems very plausible when we remember that the venous blood of the appendix and this portion of the cecum is drained directly into the portal circulation.

DIFFERENTIAL DIAGNOSIS.

The differential diagnosis from appendicitis is many times very difficult to establish, and in cases where the appendix is located high, or the gall-bladder is low, a correct conclusion is quite impossible. The history of the case may be of some assistance, but in the first attack no help can be had from this source. The absence of dulness on percussion in the appendicular region, and the discovery of a tumor with smooth, tense outlines at the margin of the tenth rib, at the outer border of the right rectus muscle, would indicate gall-bladder trouble, as in many of these cases the bladder fills rapidly. In appendicitis rigidity of the rectus is most marked in the lower half; in cholecystitis in the upper half, and the

local and focal points of tenderness are generally correspondingly also located. The temperature and pulse, as a rule, are not so high in appendicitis. In cholecystitis the vomit is more likely to be bile. When the tumor can be felt low down, if it be the gall-bladder, the outlines of the displaced liver can be made out by percussion just above it. The smooth, regular contour of the gall bladder can usually be distinguished from the irregular, ill-defined mass accompanying appendicitis. Suppuration takes place earlier in appendicitis, and can usually be determined with reasonable accuracy by the blood count.

In kidney lesions the induration is more deeply situated and the extreme superficial sensitiveness is not present. The temperature does not rise so suddenly nor go so high as in gall-bladder affections. The induration does not extend so high in the abdomen, and can usually be separated from the margin of the ribs. When a tumor is discernible, it is anterior to a line drawn from the anterior axillary fold to the anterior superior spine of the ilium; whereas in kidney lesions the tumor would be posterior to this line. There might be a history of renal calculi with pains referred to the hypogastric region and to the urethra, with frequent urination and the passage of calculi. In pyonephrosis there would be septic symptoms, with pus, and perhaps albumin in the urine. In gastralgia and intercostal neuralgia there would be no tumor, no tenderness of importance, and no temperature.

Infection by the typhoid bacillus during the course of, or shortly following, an attack of this disease frequently takes place, or the infection may become active early and be a complication of typhoid fever. When the infection is active during the course of the fever, we suspect an aggravation or a relapse of this trouble, but on examination of the region of the gall-bladder we will be able to find physical manifestations of this trouble. Jaundice is less likely to develop here than when the disease is caused by other infections, for the reason that in typhoid fever the secretion of bile is usually greatly diminished because of the involvement of the parenchyma of the liver in the degenerative changes of this disease. The presence of the typhoid bacillus in the gall-bladder may account for many of the relapses of this disease, for an increase of food during convalescence, by causing an unusual amount of bile to flow into the bowel, might cause a reinfection of the system through the intestines.

In a malarial fever we will find an enlarged spleen accompanying, and without enlargement of the liver. In children suffering from malarial infection no hepatic lesion can be found; but in cholecystitis, and cholangitis especially, a considerable enlargement is usually present. In malaria the fever is intermitting, while in liver affections it is most generally remitting.

TREATMENT.

The medical treatment of these cases is simple and not very extensive. In the acute form of cholecystitis, cholagogues should be administered early. A small dose of calomel, one grain with two grains of extract of henbane at bedtime, followed next morning by two or three drams of Carlsbad salts in one-half pint of warm water, is a very good aperient;

followed by a small dose of ipecacuanha, one-eighth to one-quarter grain, three times a day is frequently very efficient. Antiphlogistic remedies and the application of moist heat to the abdomen in the form of turpentine stupes is, in most cases, sufficient to restore the patient to health within a fortnight. In the subacute and chronic forms a more systematic use of the cholagogues should be made, and usually more benefit will be derived by changing the remedy occasionally than can be had by the continuous administration of any one of them. Perhaps one of the best treatments consists of giving one grain of calomel with four grains of compound rhubarb every night, or alternate nights, at bedtime, and two drams of Carlsbad salts in a tumblerfull of hot water the next morning. As a change we may give two grains of euonymin, or one-fourth grain of podophyllin, or three grains of iridin in place of the calomel. A dose of castor oil once or twice a week in place of the salts will be found grateful to the intestinal tract. Fifteen grains of sodium salicylate, with ten grains of sodium bicarbonate in four ounces of water, three times a day, continued for a considerable time, will increase the flow of the bile and render it more fluid. Accompanying the administration of the cholagogues, which remove large quantities of water from the system, the patient should be instructed to drink freely of some alkaline mineral water, such as Carlsbad or Vichy, or if these cannot be had a good substitute, and one almost equally effective, is made by dissolving twenty grains of sodium bicarbonate in one pint of water, this to be taken three times a day, before lunch, before dinner, and at bedtime. Of equal importance with the stimulation of the flow of bile is the removal of the decomposing feces, thus relieving the flatulent distention and preventing possible blood contamination, hence the necessity for the use of an intestinal stimulant in combination with the cholagogues. To counteract the putrefactive changes which result from the absence of bile in the intestines, and the diarrhea which frequently accompanies this condition, it will be well to give a few drops of creosote or guaiacol in a little milk three times a day, after meals. When, after the cholagogues have been used for some time, the bile is mixed with considerable mucus, giving evidence of the catarrhal state of the bile passages, nitrate of silver given in pill form, one-quarter grain three times a day, will prove to be very beneficial.

In cases that do not yield to medical treatment within a reasonable time, recourse should be had to operative procedures. When septic symptoms have developed, to leave the patient in the grasp of the disease and to the processes of Nature is but to court disaster. Repeated attacks of biliary disease mean that repeated advances are being made on the patient's tissues and vitality. The many attacks which are recovered from without operative interference form the bait that lures many others to a fatal issue of the disease. The profession, and much less the laity, has not succeeded in measuring the individual vitality which is the explanation of so many recoveries, and the demise of so many others who were apparently no more seriously ill; but there is sure to come a time when the attacking force will prove to be stronger than the resisting

powers, when pathology will supplant physiology, and life must yield to the progress of the disease; when operative interference, if employed sufficiently early, would perhaps have brought about a different termination, for while there is sufficient vitality to recover from repeated attacks of disease, it is also sufficient to withstand the shock of operative procedures, and when it succumbs to such shock it is conclusive evidence that operation had been too long delayed, and that the same results would have been the inevitable and early termination without such intervention.

Drainage to relieve the system of the toxins or infection which are active therein, and have separated the patient from his heritage of health, is the great desideratum in the treatment of these cases, and until medicine can do this as thoroughly and safely as can surgery, it can not lay claim to preference in the treatment. The condition of the patient at the commencement of the operation must to a great extent dictate the course of procedure. In acute empyema of the gall bladder, or acute obstruction of the cystic duct, whether catarrhal or from calculi, cholecystotomy will generally be the operation of choice. When the trouble has reached the stage of gangrene of the gall-bladder, or chronic suppuration, or fibrous contraction of its walls, cystectomy offers the best and safest means of relief. When the septic state is profound and the vitality is too low to withstand the shock of the complete operation, a cholecystomy with drainage is all that can be done primarily, completing the work when sufficient reaction has taken place to render the procedure not more than ordinarily hazardous. In suppurative cholangitis and obstruction of the common duct, drainage of the ducts as well as of the bladder will be necessary. Adhesions of the gall bladder to the stomach and the intestines, which are caused by the numerous acute exacerbations, will cause very distressing symptoms, such as sensitiveness and distress in the epigastric region, produced by a consciousness of the normal peristaltic action, soreness on pressure, neuralgic pains, bloating, bilious attacks—so-called—and no doubt in many cases by the interference with the muscular motility of the stomach from the direct cause of gastric ulcer and carcinoma. Obstruction of the common duct may cause the bile to flow into the pancreatic duct, carrying with it infection, and thus producing a pancreatitis; or we may get the same results merely by pressure of a stone on the pancreatic duct, thus obstructing the outlet of the pancreatic secretions without the bile entering the duct.

Operations are extremely hazardous in cases of deep and long-continued icterus—here the administration of calcium chlorid in ten grain dose every four hours for a day or two, by its action on the blood, may be of some benefit.

THE OPERATIVE TREATMENT IN FRACTURES PRESENTING
OBSTACLES TO REDUCTION.*

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In selecting a subject for presentation on this occasion none seemed more appropriate than the operative treatment of fractures involving the long bones. The subject is an important one, but lacks the prominence long established for many other less rational and justifiable surgical operations. That fractures generally offer the greatest possibilities for error in diagnosis and mistakes in therapeutic selection and application no one will deny.

Passing in review the progress which surgery has made in many branches during the last few years, one is able to gather at the same time abundant proof that fractures have not been as thoroughly and systematically studied as might be expected. If this in retrospect is true of the question as a whole, then in asking your attention to that part of it which forms a basis for this argument no apology is needed except for the manner of its presentation. There is no intention or thought of adding anything new or original in this paper, but to revive, if possible, interest in a subject of much importance to the surgeon and emphasize, as a result of the experience of others, and of a limited personal one, a few of its most vital features.

The treatment of fractures is to-day practically the same in many particulars as it was twenty or more years ago. Dupuytren's split is still used and recommended by some in Pott's fracture as it was by the older surgeons. Sayre's method of treating a fractured clavicle and the Velpeau and DeSault bandages are still regarded as ideal treatment of this injury, and will frequently show to the close observer the same lack of efficiency now that they should have shown then. There is no desire to convey the impression that the devices mentioned are wholly inadequate under all circumstances, but that they are in the majority of cases of practically no value. The demand for better results in unopen fractures is constantly growing, and that actual improvement is being made in the hands of some surgeons in this and in other countries a review of the literature will show.

In 1893 Arbuthnot Lane began the systematic wiring of the bones in subcutaneous fractures, and in an excellent article¹ published later set forth the indications for the operation. The monographs of Allis,² McCurdy,³ Bird⁴ and Bickham⁵ are worthy efforts and deal extensively with the personal experiences of the authors. The work of König⁶ and Roth-

* Read before the Annual Meeting of the Illinois State Medical Society, at Springfield, May, 1906.

1. Lane, Arbuthnot: Transactions of Clinical Society, 1894.

2. Allis, O. H.: Annals of Surgery, June, 1897.

3. McCurdy, Leroy: New York Med. Journal, April 19, 1904.

4. Bird, Golding: Practitioner, August, 1901.

5. Bickham, W. S.: Post. Grad., N. Y., March, 1905.

6. König, Fritz: Arch. f. Klin. Chirurgie, vol. lxxvi, p. 725.

child,⁷ Kocher⁸ and of Helferisch⁹ are historical and contain the best that has been written on the subject. The direct fixation of broken bone fragments is, however, an old procedure. VonGurlt collected several cases of bone wiring in 1862, and Rodgers performed the operation as early as 1825. Probably the most notable of the earlier papers was a memoir by Roux in 1894 on bone suture in fractures. He advocated the method particularly in fractures of the tibia, and exhibited patients in the same year who were able to walk in four weeks after the operation. Although indorsed by as conservative a body as the German Congress of Surgeons in 1902, the wiring of subcutaneous fractures failed to provide for the procedure a unanimity of opinion among surgeons. The operation has been severely condemned by Marmaduke Shield, as it was formerly by Trendelenburg, Bardenheuer and others. The arguments opposing the operative treatment seem, however, more like a desire to cling to antiquated notions than substantial reasons against the operation. That improved methods of managing difficult fractures are much needed and recognized by every one whose attention and time have been devoted to the question is a self-evident fact.

Fick and other embryologists have shown the influence of pressure on the contour and shape of joint structures. Surgeons have long recognized that pressure, when exerted abnormally in degree or direction, such as is occasioned by altering the direction of the long axis of a bone as in malunion following a fracture, will change in appearance all the structures entering into the formation of adjacent joints. Lane, while teaching anatomy, was led to some observations in this regard of great interest; the large number of badly united fractures of the bones of the thigh and leg which he encountered enabled him to study in detail the great changes in shape of the knee and ankle joints. The joints immediately below the deformity always showed striking abnormalities as regards form, which included the joint ends of the bones as well as the soft parts, showing, in other words, a direct relationship between the forms of articular surfaces and the pressure exerted upon them.

The literature is not without evidence that some have been and are now making use of radical measures in some instances wholly unjustifiable, and that this unfortunate error had much to do with creating confusion and opposition on the part of those whose objections have been raised against the operation. It is plain that cases without complications, obstacles to or difficulties in reduction have been needlessly subjected to operative treatment, and that such measures have been ignored or not employed at all in the really difficult cases.

With results thus obtained one can not express surprise when reviewing the statistics of Scudder recently quoted by Kelley,¹⁰ who said that in fractures of the hip results were poor in 80 per cent. of the cases, and that in fractures of the thigh functionally good results were obtained in

7. Rothchild: *Brun's Beitr. zur Klin. Chir.* vol. xxix.

8. Kocher: *Beitrage zur Kenntniss einiger prastisch wichtiger Fracturform* Basel u. Leipzig, 1896.

9. Schmann's *Hand Atlas*, vol. viii, 5th ed., 1901.

10. Kelley: *Journal A. M. A.*, Jan. 13, 1906.

children only, and that in fractures of the leg in adults poor results were seen in 60 per cent. of all the cases. Richardson¹¹ has recently said, "That surgeons of the highest skill feel more anxiety in the treatment of fractures than in any other injury, and that few can, without humiliation, review their results."

This paper deals with such cases as come strictly under the title, and, while radical measures are urged in their management, just as strong emphasis is raised against this treatment in cases without the indications of those not properly belonging to this category. Indeed, the operative treatment in the former class of cases is just as imperative as that which removes an offending foreign body, drains an abscess or reunites a divided nerve trunk. Moreover, the operation itself, if properly performed, is as free from danger as are these procedures. As already intimated, the frequency of the operation in some quarters can scarcely be commended, but this fact alone will aid greatly in demonstrating its safety.

Powers collected 711 cases of patella wiring with a mortality of 1.4 per cent. Golding Bird, in all his cases, never had an infection. Notzel¹² reports 34 cases and Konig 20 cases with like results.

No particular fracture will always exhibit indications for the operative treatment, and the advice to this effect given by Lane regarding a Pott's fracture, for instance, is certainly unwise and mistaken judgment. Pott's, as almost any other fracture, may call for extremely slight manipulation in effecting its reduction and require very simple means in its treatment. Such has been my experience with this fracture, and observation and inquiry have left no doubt that it corresponds in like manner to the experience of a large number of other surgeons.

INDICATIONS FOR THE OPERATION.

The indications for the operative treatment should be easily and quickly determined; an earnest effort should always be made to properly interpret the nature of the injury and in event of failure to establish the proper relation between the broken ends of the bones, and to so retain them, should constitute valid reasons for radical interference. It may not, and most likely will rarely be possible to ascertain, previous to operation, the precise obstacle to reduction; it will, however, be safe to suspect that interposed soft structures will, in the large majority of the cases, eventually prove to be the opposing factor. The peculiar shape of the fracture itself, or possibly, as strongly emphasized by Lane, blood-clot may occasionally be the only obstacle in the way. As of great importance as is the *x*-ray in the study and diagnosis of fractures, it can not be relied on as an aid to the proper course to pursue in the treatment of this particular injury. Indeed, Scudder well says, "Though we believe the skiagraph is of great assistance in most fractures, it must be confessed that the cases where it leads us to modify the treatment to any considerable extent are few in number."

In the matter of classification in fractures much is yet desired. Con-

11. Richardson, M.: *Journal A. M. A.*, Oct. 7, 1905.

12. Notzel: *German Congress, 1904*, rep. in *Centralblatt f. Chir.*, No. 27, p. 19.

fusion has, doubtless, arisen in the use of such terms as "open" and "compound," "simple" and "closed," none of which impart definite information as to the nature or extent of the injury. In a so-called simple fracture, every complication incident to such a lesion may be present, while a compound fracture may fail to exhibit more than a simple bone lesion and a small skin opening.

The surgical indications in the two varieties of injuries described would not always be found in seeking this knowledge in the average physician's library. It would appear, therefore, that all fractures, whether they be open or unopen, presenting no complications, without a barrier to reduction and exhibiting ease or no trouble in holding them reduced, would be best dealt with by conservative or non-operative measures. On the contrary, all other fractures of whatever variety not yielding to ordinary efforts in restoring the normal alignment of the bones should be operated on.

A clear distinction, clinically and pathologically, between a compound fracture purposely and one accidentally made should always be borne in mind, for the sole reason that they do not possess the slightest similarity to each other. Indeed, they are so diametrically opposite that reference to it is not out of place here. That procedure which intentionally establishes communication with a fracture is done under the guidance of modernized surgical rules. The patient, surgeon, assistants and every object concerned or used in such an undertaking receive the most careful preoperative consideration that nothing may transpire to mar the performance of the operation, nor to lessen confidence in its final satisfactory outcome.

A "compound" fracture in the common acceptance of the term is an accidental occurrence, embodying all the conditions and influences detrimental to primary wound healing and contributing almost wholly to dangerous sequelæ, which are so often responsible for the loss of life and limb. This is an accident in which the soft parts are frequently extensively and severely damaged, and in which the infectious material of all descriptions may be carried to places so remote that at the operation its presence is overlooked and its removal impossible.

As a matter of fact, experience has shown that it is as safe to open a joint or operate on a fracture as it is to do likewise with the peritoneum. If the latter were invaded in the same manner, and under the same circumstances that the medulla of bone and surrounding soft structures are, either by operation or by accident, the two clinical pictures resulting would not exhibit, in some particulars, material difference. Experience has shown that when all precautionary measures have been thoroughly considered and taken that joint operations and bone operations are just as safe and followed by the same short and satisfactory convalescence as are properly performed laparotomies.

TECHNIC OF THE OPERATION.

As regards the time which should elapse between the injury and the operation, no hard and fast rules can be followed. Circumstances will

guide the surgeon generally and will, I think, incline him, with increasing experience, to perform the operation as soon after injury as possible. When all efforts at reposition of the fractured bone ends prove futile, proper preparatory steps should be taken for the operation. This should be carried into effect systematically and carefully, even to the smallest detail. When the preoperative requirements are completed, the patient is anesthetized and the injured extremity is placed comfortably upon some very substantial support. The skin surface having again been cleansed in the usual manner, Esmarch's constrictor is omitted, and the location of the incision is now determined. This is important because disregard of scar location may prove a fruitful source of subsequent discomfort and pain from undue pressure. As a general rule, the incision should be parallel with the long axis of the bone, but never directly over the seat of fracture; but slightly to one side and should always be made of such length as will afford ample and easy access to the seat of trouble. When the soft parts are retracted, all hemorrhage controlled and blood-clots removed, the factor which made the operative interference necessary will now reveal itself. It will almost without exception prove to be fragments of torn and lacerated muscle, aponeurosis or other tissue, tightly wedged in the gap between the broken ends of the bone. These should be carefully displaced or cut away, when success will usually follow the first attempt at reduction. The condition of the periosteum should now receive attention and all loose platelets or pieces of bone in the vicinity of the fracture area be removed. The importance of this step is well described and brought out by a recent article by Carl Beck¹³ of New York, in which he describes interference with subsequent muscular action should these fragments of bone develop or grow in out-of-the-way places.

The shape or peculiarity of the bone lesion itself may require some attention, but this is exceptional; the periosteum can now be closed over the fracture, and over this the soft parts may be brought together with catgut sutures, and the skin incision closed without drainage. It is almost needless to add that firm support should be given to the extremity by trusty assistants throughout till the fixation appliances are in place. The limb may now be suspended or so placed that any and all muscular contractions may be as completely annihilated as possible. Cases, however, will be met with where the above steps will not be sufficient to enable the operator to reduce the fracture; the shape or type of the bone injury requiring alteration by chiseling or otherwise. Extreme flexion of the limb or unusual posture may be called for and even some of the many methods of internal fixation may be required to accurately hold the bone reduced.

The anesthetic will abolish practically all muscular contractions if the operation is performed shortly after the accident; but if delayed for a few days, a factor not always easily dealt with is the "physiological shrinkage" of the soft tissues so well described by Bird. Blood, as an obstacle to reduction, has never, as contended by Lane, been noted in any of the cases operated on by me. The use of Esmarch's bandage enables

13. Beck, Carl: Surg. Gynecol. and Obstet., March, 1906.

one to expedite the operation by rendering the field bloodless, but the inevitable capillary oozing which always follows its application renders this step of doubtful expediency. This objection may be overcome if the use of the bandage is imperative by subsequent extreme elevation of the injured extremity.

The means of directly fixing the bone fragments is best done by one of the many forms of suture now in use. Considerable thought has been given to this particular point and most all the methods have ardent advocates. McCurdy favors iron wire, Golding Bird uses and urges the superior merits of silver wire, while Lane uses neither and prefers screws to any suture material or other form of internal fixation. It is without question that most of the methods are worthy of consideration, and that none of them are entirely unreliable. Good results have followed the use of all of them, and when otherwise, factors other than the kind of suture material, in all probability, would afford the necessary explanation. Cat-gut sutures seem to possess the widest range of applicability by Bickham and those who have used the method most extensively. It is, however, not the best practice to leave in the wound any foreign material unless the indications can not otherwise be met. The opinion of Stimpson¹⁴ regarding this point is founded on a wide experience. He thinks that non-absorbable suture material may have a marked and detrimental effect on bone union even when there is primary wound healing. In many of his cases the secondary operations revealed to view thinned and pointed bone ends, widely separated, with no attempt at union. This occurred in one of my cases, and is such a good example of the condition referred to that a brief account is here given.

A young man, 22 years old, received an injury which fractured his right ulna in its middle third and also fractured the radius slightly above this point. The patient was seen the following day and repeated efforts, with and without anesthesia, resulted in complete failure to effect a reduction of the ulnar fracture. The difficulty encountered was not made clear by the fluoroscope, although the bone ends could be plainly seen. After exposing the seat of the fracture to view the utter impossibility of having otherwise managed the condition was made plain and unmistakable. The somewhat oblique fracture of the ulna showed no difficulty in replacement, after having cleared the ends of the bones. Not the slightest infection that could be determined clinically occurred and the wound healed throughout by primary union. No callus formed, and now, eight months after the operation, the fracture is ununited. The ends of the bones are visible by the fluoroscope and show the condition so well depicted by Stimpson. The wire in this case can be plainly seen and remains as placed at the operation.

If internal fixation is really required in a given case, it will be quite unnecessary, as McCurdy has demonstrated, to drill the holes through the entire ends of the bones. This surgeon used two wires, passing them from the outside of the bone into and out of the medullary canal, which

14. Stimpson, L. A.: Fractures and Dislocations.

does not require the projection of the ends of the bone out through the incision in the soft tissues. This latter step is unwarranted, as it does not facilitate the operation, and, besides, strips the periosteum away from the bone to a dangerous degree, leading often to nutritional disturbances of the bones and increases the possibilities of infection.

In accordance with the technic just described I have operated for irreducible fracture of the clavicle seven times, the femur twice, humerus once and the tibia three times. Wire sutures were made use of in all the cases but two, and infection occurred in none of them. The opposition to easy reduction was found in every case to be due to tissues of some soft structure impinged between the fractured bones. Good results were obtained in all the cases except in the one before mentioned, and in none of them was massage or early passive motion ever deemed necessary.

The operative treatment of fractures as herein set forth, necessarily brief and incomplete in a communication of this kind, possesses one very distinctive feature hitherto but little noticed. It has not, in fact, been my privilege to note in text-book or elsewhere any reference to it whatever and was first forcibly brought to my mind in the experience of cases operated on. Reference is made to the much lauded early massage and passive motion, deemed so beneficial and useful by some and carried to such an extreme degree, especially by French surgeons. The indications for this measure in some instances and the advantages to be gained by its discretionary and intelligent use must be admitted. On the other hand, it does not tax the imagination to realize its prejudicial effect when used injudiciously or viewed in the light of a universal necessity.

As a general proposition its office is to promote the absorption of extravasated blood and likewise all inflammatory products; or, in other words, to establish a prompt, complete and quick restoration of the normal function and usefulness of the injured extremity. It should require no argument to convince the most skeptical that if fractures occurred without subcutaneous hemorrhage or effusion into the tendon sheaths and other soft tissues, and if practically no inflammatory deposits occurred, and the type of fracture was simple and easily reducible, that no form of massage or passive motion would ever be indicated. Such treatment would belong to "meddlesome surgery," and in every instance would be positively harmful. But as a large majority of the fractures, especially the irreducible ones, exhibit all the factors before mentioned, and this often to a marked degree, they are dealt with most perfectly and satisfactorily by that method which removes or eliminates these conditions and best remedies the bone lesion, namely, operation. By this step only can an absolute diagnosis be made and the fracture perfectly and accurately reduced. Effusions of all kinds can be removed and drained away, while with sutures damaged tissues may be repaired and all the so-called dead spaces, which might otherwise prove a source of trouble, may be carefully obliterated. A much firmer dressing than would be otherwise possible may now be applied, and, no fluids having been left in the wound, no swelling occurs and few or no adhesions develop to call for any form of massage or to interfere with the future usefulness of the extremity.

There will be in all cases, however, under the most favorable circumstances, some impairment of motion, but this is slight and of short duration. Moreover, patients may be spared the pain and discomfort incident to early massage, a measure of doubtful utility except in isolated cases.

If in the few ideas expressed in this paper regarding the operative treatment in the type of fractures named, facts have not been wrongly construed, three rather definite conclusions may be drawn:

(1) That the unsatisfactory results hitherto obtained in practically all such cases as here described, when treated conservatively, will not meet the continued approval of the surgeons familiar with modern surgical technic.

(2) That the indications for radical treatment are positive and certain and that the safety of the procedure is unquestioned.

(3) That the operation offers in this class of cases the only reliable means of arriving at a correct diagnosis, the only bases upon which rational and scientific treatment may be enunciated.

PATHOLOGY OF VESICAL TUMORS.*

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Fenwick's conclusions concerning the location of single vesical tumors found in the museums of Great Britain are as follows:

Villous papilloma.—1. Growths that are single are generally (86 per cent.) found in the inferior zone. 2. They spring from the margins of the trigone. 3. They are found at the right ureteral orifice in 43 per cent., at the left ureteral orifice in 26 per cent., and on the interureteral bar in 10 per cent. of the cases. 4. They are generally pedunculated or tend to become pedunculated in the proportion of 2 to 1 (43 per cent. are pedunculated, 20 per cent. are sessile, 33 per cent. are sessile).

Fibromata.—Ninety per cent. are at the ureteral orifices.

Sarcoma.—The trigone is rarely the site of the disease in the adult. The favorite spot is the posterior wall, either just behind the right or the left ureteral orifice. They are usually sessile (10 per cent. possessed pedicles).

Carcinoma.—The right and left ureteral orifices are rarely the origin of carcinoma, though of course they may and generally do become implicated by extension. The posterior wall in the middle zone is the part most often affected, i. e., 63 per cent.; next to this comes the trigone itself, 20 per cent.

As regards the three zones to become affected by single cancerous growths, the following statistics are of importance to the cystoscopist. They are estimated by the author from 100 cases of carcinoma vesical: Upper zone, 7.2 per cent.; upper and middle zone, 7.2 per cent.; middle zone, 22.5 per cent.; middle and lower zone, 17.5 per cent.; lower zone,

* Read at joint meeting of the Chicago Urological and Chicago Medical Societies, Dec. 19, 1906.

42.5 per cent.; The upper: middle: lower zone:: 1:3:6 as regards liability to cancer. The above statements cover the location of vesical tumors so completely that they have been used without any change. All observers unite upon the trigone and near the ureteral orifices as the most frequent sight for primary tumor development. Davis states that second tumors usually develop upon the posterior wall where it would come in contact with the first tumor at the base when the bladder was empty, thus corroborating Albarran's theory of propagation by contact.

Frequency.—Gurtl found in .39 per cent. and Küster in .76 per cent. of all tumors; Küster, Ultzmann and Burghardt in 3 per cent. of all cases of urinary diseases. Females are affected less often than males, 25 per cent. (Clado), 22.03 per cent. (Albarran), 33 per cent. (Ultzmann), and 20 per cent. (Tuffier) of all cases. They are found in all ages, but mostly between 40 to 60, childhood showing more of connective tissue group, myxoma and sarcoma, while the later years show more of epithelial tumors.

Etiology.—Heredity has no part in the etiology of vesical tumors. A continuous active irritation of the bladder is undoubtedly a causative factor. The appearance of bladder tumors after lithiasis, the transformation of chronic cystitis into epithelioma are arguments used by Zuecker-kandl who states it is certain that the bladder mucous membrane under continuous irritation undergoes proliferation whereby the villous growths developed present histological resemblances to tumors. The epithelium of the base is predisposed to proliferation under physiological conditions, forming folds and cysts more readily than the rest of the bladder. It is only a step from such structures to papilloma formations and epithelial proliferation is found surrounding papillary tumors. Parasitic causes, as Bilharzia infection and chemical irritation as shown by the undoubted predisposition of aniline workers to bladder tumors certainly add weight to the irritation theory in which an increasing element of the profession believes rests the cause of most tumors. Most cases lack positive and satisfactory evidence as to the direct cause of the tumor growth.

Pathology.—Anatomically the bladder tumors are divided into those primary in the organ and those that are secondary to tumors in the prostate, rectum or genitalia. Clinically they are called benign and malignant, the latter showing deeper involvement of the layers of the bladder wall and metastases. The benign form includes papilloma, adenoma, fibroma and myoma, and the malignant includes carcinoma, sarcoma and myxoma. Change from benign to malignant form has been seen in the bladder. Their gross anatomy classifies as pedicled, broad based and infiltrating and their external peculiarities as papillary, hard, scirrhus and medullary in type. Vesical tumors are usually divided according to their histological structure. This gives the nature of the tumor, its point of origin and presents the best basis for clinical opinion in each case. The epithelial and fibro-epithelial include papilloma, adenoma, papillary and other carcinoma: those based upon the cell elements of connective tissue include sarcoma and fibroma. Transition from one form to another or mixed types is frequently seen.

Fibro-epithelial tumors, papilloma or villous polyp of Küster, fibroma papillare of Virchow, fimbriated papilloma of Thompson are villoused tumors resting on the mucous membrane or connected with it by a pedicle; sometimes bearing almost feathery, extraordinarily pliable, long floating projections; sometimes bearing hard, short projections covered with nodules. All papillary tumors do not extend thus from the surface; some are flat circumscribed diffuse papillary structures where the papillae are raised in rows from the muscle layers. All these are proven to be from the mucous membrane by traction which raises only those layers of the bladder walls.

David modifying Küster's classification which is similar to Albarran's and based upon the three histological elements of the bladder walls divides vesical tumors as follows:

1. *Epithelial Group*.—Papilloma, Adenoma, Carcinoma and Cysts.
2. *Connective tissue Group*.—Sarcoma, Fibroma, Myxoma and Angioma.
3. *Muscle group*.—Myoma.

His microscopical examination of 28 specimens showed 15 carcinoma, 10 papilloma, 2 sarcoma and 1 myoma. Nitze, Küster and Virchow place carcinoma in the connective tissue group, but it is differentiated microscopically by the changed or abnormal relations of the epithelia and connective tissue, whereby the former penetrate into the bladder walls, hence Davis classifies it as an epithelial tumor.

The papillomata are from single isolated spots to as large as the fist, filling the bladder. Sometimes they are single, sometimes multiple, the latter in over one-fourth of the cases. Most show one large tumor with the smaller ones grouped near and usually connected with it. Usually the papillary tumor is located on the base of the bladder near one or the other of the ureters or the mouth of the urethra and may completely destroy or distort them; rarely found on the sides or summit of the bladder walls. Microscopically the papillomata of the bladder consist of connective tissue and epithelial cells: both elements participating in the tumor growth and always remaining in the same relation to each other. The scaffold of all papillomata is a connective tissue system, starting from a root and directly joined with the stroma of the mucous membrane. The scaffold is not rich in cells but is luxuriantly vascularized. The pedicle, where the connective tissue is compactly joined, contains numerous large blood vessels coming from the submucosa of the mucous membrane. These vessels ramify with the scaffold of the connective tissue so that every villi bears its own artery in its center, forming a loop at its clubbed end. The pedicle stroma, like the muscle layers of the bladder, contains elastic and muscle fibers. Numerous lymph follicles of typical structure with germinating center are by no means infrequent in the hard pedicles of papillary tumors. The entire connective tissue structure is covered on its outer surface with a thickened epithelium which is continuous at the base of the tumor with the bordering mucous membrane.

Davis defines papilloma as a pedunculated papillary or villous tumor with a branching connective tissue stalk containing blood vessels and occasionally smooth muscle fibers covered with one or more epithelial cell

layers, but without epithelial infiltration of the bladder walls; the epithelial elements are the essential ones but the proportion of the epithelial and connective tissue elements may vary greatly. The feathery branches (villi) consist of a delicate connective tissue strand, which surrounds the central artery and is covered with thick epithelium.

There is a marked tendency of bladder tumors to be polypoid according to Hektoen-Riesman. The soft or villous papilloma, a pedunculated or sessile growth being a rather common form, is most frequently found in the trigone of the bladder. It may be small and slender or a large cauliflower-like mass. The individual villus consists of a capillary loop, covered with a small amount of connective tissue and several layers of cylindrical epithelial cells, resembling the arrangement of the epithelium of the bladder. They sometimes occupy an extensive area along the surface of the urinary tract. Anatomically these tumors are benign but have a tendency to recur after removal and occasionally seem to become malignant or carcinomatous in type while they also may ulcerate.

Schmaus states that papillomata never have the epithelial cell masses below the level of the epithelium.

With a low power we can differentiate papilloma of two types; one consists chiefly of a stroma with short projections only and the other in which the chief mass of the tumor consists of long fringelike villi, the latter frequently having branches broken or anastomosed irregularly. We may find the villi in short round epithelial masses around the connective tissue axis. Complete coalescence of the papillæ of the entire tumor so changes its consistence that it appears a solid tumor, but examination of a section shows it to be a papilloma with short villi grown together, thus its histological character as fibropapilloma is evident.

Tumor-like prominent papillæ often raise out of the mucosa, neighboring ones being of equal size and the entire structure being sharply bordered by bladder epithelia.

The villous epithelia change at the base of the tumor into that of the bordering mucous membrane, hence the papilloma epithelia present different layers. The deeper stroma bordering cells are more cylindrical and are arranged radial to the axis of the villi. Like the bladder epithelium the outer layer appears of large irregular polygonal cells whose smooth surface is slightly clouded. In these cells we differentiate a superficial layer appearing in the form of a wide border and a second granular layer in which are more nuclei. This broad-edged surface epithelia undoubtedly cause the cementing of the villi; the epithelia coalesce one with another, where the normal coat is absent, while at other places the normal cells remain. Like the mucosa of the bladder the stroma and epithelium of the papilloma is subject to known changes of pathological kinds. Sometimes the stroma, when the bladder is infected, is also distorted, and we find it richly infiltrated with many masses of round cells and markedly vascularized. The infiltration often continues into the villi. The villous epithelia contain in almost all cases like the bladder vacuoles or spaces enclosing colloid masses and cell elements. Also cystic changes have been observed in papillary tumors. The tender villous tissue is often injured by the urine currents, removing the epithelia until the arter-

ies are exposed or opened or the villi torn off. Edema of the stroma of the villi is caused by the splitting of the axis, giving a distended condition. Complete severing of the circulation in the axis of the villi may cause necrosis, and incrustation with salts of the urine also occurs.

Carcinomata of the bladder are epithelial tumors in which the epithelium and connective tissue do not remain in normal relation with each other, but develop separately, the epithelia growing irregularly into the surrounding tissue and by breaking through into the blood and lymph streams the cells are carried to distant locations and form new or metastatic tumor structures. They appear as papillary tumors, cauliflower growths, globular tumors, as inlaid hard places in the mucous membrane, and finally with almost no visible signs as an infiltrating form.

Squamous epithelioma is the usual type of malignant epithelial growths and the infiltrating form causes marked thickening of the walls of the bladder. The malignant tumors differ primarily from the benign through the penetration of the epithelial cells into and the destruction of the underlying layers. Primary carcinoma of the bladder is rare, most being secondary from the neighboring tissues, in man from the prostate or rectum and in woman from the rectum, uterus or vagina.

Opinions differ as to what constitutes a papillary carcinoma of the bladder, Davis quoting Rokitsansky as holding that all papillary epithelial tumors of the bladder are malignant; Virchow was the first to emphasize the existence of benign papillary fibromata; Albarran defining as benign papillomata and malignant epitheliomata the first, if normal bladder cells are reproduced, and the second, if the cells are atypical; while Orth, Ziegler and others make epithelial infiltration of the bladder walls and metastases the requisites for carcinoma here as elsewhere. Davis further states that benign papillomata may undergo carcinomatous degeneration so that a stage is present in this process when it is difficult to tell whether benign or malignant. The bladder wall may be infiltrated in one of two tumors which are macroscopically and microscopically indistinguishable, hence the infiltration of the underlying bladder wall should be the test of malignancy rather than the cellular arrangement and character in the tumor itself.

Adenoma of the bladder consists of proliferated epithelia in the shape of tubes and a connective tissue scaffold. The bladder epithelia have a remarkable tendency to proliferation whereby single or branched tubes are formed. If hyperplasia of the mucous membrane accompanies this we get the tumor growth on the lining of the bladder. This growth is more frequent in men than in women, and from 40 to 60 years of age. Most are found at the base of the bladder, walnut-sized, usually solitary, pedicled or broad based, its surface smooth or rough, or it may be with villi. The tubes are lined with cylindrical epithelia which sometimes contain a secretion.

Sarcoma is more common in children and young persons, as only one-third of the cases reported were past 50 years of age. About one-third of the cases were in females. Macroscopically the sarcomata show no characteristic peculiarity, they may be voluminous, single or multiple, while all gradations from hard to soft consistency may be shown. They may be

pedicled, broad based or infiltrated. The surface may be smooth or unevenly nodular. All varieties are found, as round or spindle celled, fibro, myo, or alveolar sarcoma, or even small-celled telangiectatic and chondrosarcoma. Küster has reported 5, Hinterstoisser 40, and Albarran 52 cases of sarcoma. Steffen, reporting 32 cases of malignant tumors of the bladder of childhood found them equally divided as to sex. Most arising from the trigone and majority were sarcomata; 13 were round or spindle-celled sarcoma; 8 fibro-sarcoma; 1 lympho-sarcoma; 1 myxo-sarcoma; 8 myxomata, and 1 papilloma. Most were located between the openings of the ureters and the urethra, starting from the mucosa, involving first the epithelial layers and thence the underlying strata; further progress involved the muscle bundles and caused thickening of the entire wall. The normal epithelium covering of early stages later becomes changed into tumor cells. The tumor tissue was very vascular.

Fibromata of the bladder are hard, round, pedicled tumors covered with mucous membrane. True polypoid fibromata are rare; Albarran describes two hard, lobed, pedicled tumors covered with hyperplastic mucous membrane. This covering membrane is sometimes movable, thus permitting shelling-out the sub-mucous fibroma nodules. They are composed of connective tissue and muscle fibers and are sparingly vascularized.

Myoma of the bladder has been reported in 20 cases according to Zuckerkandl. They were equal in both sexes and in appearance and structure similar to the fibroma. Usually most developed toward the lumen of the bladder, though some grew into the paravesical tissue. Some were multiple, almost always sharply outlined and easily removed.

Histologically they are generally composed of smooth muscle fibers as striated myomata are very rare. Softening and necrosis may occur. Dermoid of the bladder has been reported in one case by Thompson, and ovarian dermoids have broken through. A chondroma has also been observed.

We can unite with Davis' conclusions as follows:

1. Stone in the bladder is not an etiological factor of importance in the causation of these tumors.
2. The condition of the underlying bladder wall in regard to epithelial infiltration is the most satisfactory and reliable guide in the determination of the benign or malignant character of papillary epithelial tumors of the bladder.
3. If the foregoing condition is accepted as the differential test of these growths, then will the benign forms, commonly called papillomata, be found to at least equal, if not outnumber, the malignant, the papillary carcinomata.
4. Recurrent epithelial tumors are not necessarily malignant.

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THE TREATMENT OF CONGENITAL SYPHILIS IN INFANCY.*

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Hochsinger divides all cases of congenital syphilis into four groups:

1. In the first group belong all syphilitic fetuses which have perished *in utero*, usually before the eighth month. Upon examination these fetuses are found to be free from any skin eruption, though they show severe and diffuse disease of the glandular organs, particularly of the liver and spleen, and very frequently present evidence of syphilitic osteochondritis. These fetuses are often more or less macerated and are not cases for medical treatment.

2. The second group includes those cases where the product of conception is born shortly before the expiration of pregnancy or it may be born at term. It may be born alive or dead. In either case it shows syphilitic skin affection (papular or bullous syphilides). If the case comes to autopsy one will find macroscopic and microscopic evidence of diffuse inflammatory processes in the visceral glandular organs, particularly in the liver, the kidneys and the lungs. Very often there is evidence of syphilitic osteochondritis at the epiphysis. These infants have a peculiar marantic appearance at birth which should arouse the suspicion of syphilitic infection. The skin is of a greenish-yellow color; the nose is broad and retracted. Snuffling, with difficult nasal breathing, occurs early. The voice is hoarse and in a short time there appears an irritating discharge from the nose. A purulent discharge may occur from the ears.

3. The third group comprises all those infants born with congenital syphilis, though without any syphilitic skin manifestation. Shortly after birth the syphilitic skin and bone manifestations may appear, though visceral changes are not recognizable.

4. The fourth group comprises those infants who are born alive and who present at birth or shortly thereafter visceral and osteochondritic manifestations, though they remain free from skin eruptions.

The symptoms resemble very much those of acquired syphilis in adults, with the exception that the peculiarities of the fetal and infantile organism necessarily modify the course of the disease. In the infant, owing to the delicate structure of the skin, pemphigus is much more common than in adults. At the juncture of epiphysis with the diaphysis of long bones, where the process of growth is going on rapidly, it is not surprising that the syphilitic process should localize and produce osteochondritis. In the most severe cases the epiphysis is separated from the diaphysis, constituting the so-called pseudo-syphilitic paralysis of Parrot.

In congenital as in acquired syphilis all tissues and organs are likely to become affected, the skin as well as the internal organs. In the beginning of the disease there may be mild local lesions, inflammatory in nature. Later on, sclerotic changes are produced. The early con-

* Read before the annual meeting of the Illinois State Medical Society at Springfield, May, 1906.

ditions may heal without leaving a trace. The later condition may be progressive and lead on to the most destructive lesion.

The course of hereditary syphilis may be compared to the acquired. The first month or the first year corresponds to the secondary period of acquired syphilis. After this time the tertiary symptoms may appear. The tertiary symptoms of congenital syphilis may not become apparent for years, or they may remain latent for as long as ten or twenty years, or even longer.

REMEDIES EMPLOYED AND CHOICE OF DRUGS.

Since Neisser, Metschnikoff, Lassar and others have successfully inoculated anthropoid apes with syphilis, the hope of finding a curative serum has been strengthened somewhat, though this still remains among the unsolved problems, and we look into the future for its solution. At present two drugs, mercury and iodine, constitute the remedies for the treatment of syphilis.

Mercury and Its Salts.—For the early manifestations of congenital syphilis mercury is by all means the most dependable drug. Three methods of administration are recommended:

1. Ingestion.
2. Endermic (inunctions, fumigations, baths).
3. Hypodermic (intramuscular, intravenous).

In every form of mercurial treatment, caution must be observed lest the drug be given in excessive doses. If the dose is too large or too long continued, albuminuria or intestinal catarrh may result. Sometimes a severe anemia results, or there may be a general loss of strength which may lead to the most serious results. Cases of mercurial stomach diseases are relatively rare in infants, though Baginski has seen such cases several times. In all cases, however, a careful toilet of the mouth should be insisted upon. The mouths of young children should be washed with a chlorate of potash solution or one of the antiseptic mouth washes. Children who have already erupted teeth should have them kept scrupulously clean. If the teeth are carious they should be filled or extracted.

Ingestion.—This is the method most generally advised in infants. The advocates of this line of treatment are Heubner, Neumann, Lane, Still, Salge and many others.

1. Calomel, in 1/30 to 1/20 grain three times daily. Some of the older writers advise that it be combined with the carbonate of iron. If calomel produces diarrhea it may be combined with tannin or with small doses of Dover's powders.

2. Hydrargyrum cum creta (gray powder). This preparation is principally used by English physicians. It is especially recommended by Still and Hutchinson. It may be given in one-half to one and a half grain doses three times daily. If there is a tendency to looseness of the bowels, it may also be combined with Dover's powder or with tannin. In the severer cases, particularly where this preparation is well tolerated, the frequency of administration may be increased so that the powder is given six or seven times a day. Still says that gray powder combined with

aromatic chalk powder, or in the very severe cases, where the most energetic treatment is called for, mercurial inunctions may be employed in addition. He thinks that with such treatment the most severe cases will improve. He can say nothing in favor of the intravenous or intramuscular injection of mercury or the administration of iodine in practice among infants.

3. Hydrargyrum protoiodid, dose $1/12$ to $1/14$ grain, three times daily. Neumann (Berlin) and many of the French authorities prefer this to all other preparations.

4. Mercuro (a nucleoid of Hg 10 per cent.). Hollen recommends this preparation for internal use in tablet form, the dose being $1/4$ grain three times daily, and may be increased to 1 grain daily. He thinks it is more readily absorbed and less irritating to the intestinal mucosa than any other mercurial for internal use.

5. Bichlorid of mercury, as liquor hydrargyrum per chloridum (B.P.) has been recommended by Still. He gives 2 minims four times daily for young infants and increases up to 10 minims at 1 year of age. It may be given in milk or in an emulsion of cod liver oil. This method of treatment must be supervised lest an overdose be given. For example, it would hardly be safe for dispensary practice.

6. The oxydulated tannate has been recommended by Lustgarten, quoted by Neumann. The dose is from $1/10$ to $1/16$ grain four times daily. It is said to be non-irritating and is said to liberate metallic mercury in the stomach.

INUNCTION METHOD.

The latest researches tend to show that but little, if any, mercury is rubbed into the skin. It is believed that this is really an inhalation method, the patient breathes the mercury, which becomes volatilized while it is being rubbed. There can be no doubt that the ointment may be extremely irritating. It may at times produce the most violent reactions of the skin, causing the most intractable cases of dermatitis, and these may directly or indirectly be the cause of a fatal termination. All of us who treat syphilis in infants and who have used the inunction method, I think, are agreed that it is not suitable for young infants, particularly those in whom the skin is tender or broken. On the other hand, in strong and healthy children, particularly after the sixth month of life, when relapses occur, this method of treatment yields good results. In the very severe cases, where a rapid effect is desired, the method may be tried. Neumann (Berlin) recommends the following daily dosage of the ointment: For a child 1 year of age, 0.5 gm.; 2 to 3 years old, 1 gm.; 4 to 6 years old, 1.5 gm.; 7 to 10 years old, 2 gm.; more than 10 years old, 3 gm.

Rotch's method of mercurial inunction consists of using equal parts of oleate of mercury and lanolin. He advises that this be thickly spread on a thin, soft flannel, cut in such a way so as to reach from the ensiform cartilage to the pubes and to extend around the entire abdomen. He believes that, as the baby moves, the ointment is continuously being

rubbed into the skin. The band should be allowed to remain in place for 48 hours. It could then be removed, the abdomen washed and the band reapplied.

THE CHOICE OF DRUGS FOR INUNCTION.

1. Unguentum hydrargyri.
2. Unguentum hydrargyri ammoniati.
3. Hydrargyrum colloidum. This is an ointment made of colloid mercury, 1 part, and lanolin, 30 parts, and used in doses of 3 dr. each.
4. Calomelol or colloid calomel. This is a grayish powder, 75 per cent. calomel, with 25 per cent. albuminoids. It may be obtained as calomelol Salbe, or as unguentum Heyden, which has an additional 2 per cent. of free mercury.

INJECTION METHOD.

There is a great difference of opinion as to whether this method has any place in practice among young children. Among the warmest advocates of this plan of treatment stands Heubner and Salge. Both of these authors, as has already been said, advise internal treatment in ordinary cases. Salge advises injection treatment in patients with syphilitic pemphigus at birth and with large liver and spleen, showing the involvement of internal organs. In these cases he prefers the injection method, because the amount given is under accurate control and the results are prompt; it causes no gastrointestinal irritation. There have been so many voices raised against the use of this method in infants that it should be employed only in the most severe cases where prompt and most energetic treatment is indicated, such as, for example, severe visceral lesions or brain and meningeal complications.

CHOICE OF DRUGS FOR INJECTION.

1. *Soluble Preparations.*—(a) Bichlorid of mercury: A 2 per cent. solution of bichlorid in a 2 per cent. aqueous solution of sodium chlorid is the one used by Salge, who claims that a symptomatic cure is observed after four injections, $1/30$ to $1/16$ of a grain. It may be used in 2-1000 solution, injecting 4 to 8 minims every two or three days. It has been advised that such a course of treatment should be continued for four or six weeks. It should be repeated every two or three years or oftener if relapses occur.

Of the insoluble salts, (1) calomel, suspended in glycerin or water; (2) salicylate, suspended in liquid paraffin petrolati; (3) the yellow oxid of mercury, suspended in olive oil or in vaselin oil.

OTHER METHODS OF MERCURIAL TREATMENT.

Calomel fumigations are obsolete for the treatment of this disease. They are difficult to give and have no advantage over other forms of treatment. Sublimate baths (1-20000) may be given at a temperature of 90 to 100 degrees F. and should be given for from 5 to 15 minutes. They are particularly indicated where there are extensive or obstinate skin lesions. They seem also to have a constitutional effect and are highly

prized by some clinicians. They may give rise to irritation and should be avoided if the skin is extensively broken.

TREATMENT WITH IODIN AND ITS PREPARATIONS.

The use of iodine is not indicated at all in the early stages. It is of value in the cases where gummata occur; in short, its usefulness is for the tertiary lesions. Young children bear the iodids very poorly. They interfere with normal development and very often cause a loss of weight. They produce diarrheas and indigestion. The protoiodid already referred to may be used in the early cases where some form of iodine is indicated. The iodid of soda is preferred by many to the iodid of potash, because it is thought to be less irritating. Iodipin has been supposed to be as efficacious as the other iodids. It is said not to produce iodism. Formerly it was suggested to administer iodid of mercury to the nursing mother, or possibly to the wet nurse. In this way it was thought possible to administer the drug to the infant as it was being eliminated by the breast milk. It is doubtful whether mercury is excreted by the mammary gland; but, even if it were, the amount of the dose would be so uncertain that one could hardly depend upon it.

MODES OF TREATMENT.

How long should the treatment be continued? The continuous plan of treatment, where the mercurial is given for a long period of time, was first practiced by Hutchinson. This method is objectionable in that it is difficult to carry it out, and it is thought that the patient becomes less and less susceptible to the therapeutic action of the drug.

2. The expectant method or the symptomatic method consists in giving the patient a course of mercurial treatment for four or five weeks and then awaiting the appearance of new symptoms or relapses.

3. The interrupted method consists simply in giving the patient a course of treatment, then waiting a definite time, for example, six months, then repeating the treatment. To illustrate, Gottheil recommends at least five courses of 20 weeks each during three years.

TREATMENT OF SYMPTOMS.

1. The snuffles. For the snuffles, calomel, 1 part, and sugar, 20 parts, may be prepared as a snuff or as an insufflation. An ointment of the yellow oxid of mercury, 1 gr. to the dram, may be brushed into the nostrils; or the white precipitate ointment, 1 part, and lanolin or vaselin, 3 parts, may be brushed into the nose.

2. For generalized eruption, bichlorid baths, already referred to, plaster mull (Hebra).

3. Visceral involvement or tumors. Any of the energetic forms of treatment, already referred to, as injections, inunctions, etc.

4. For condylomata the area is washed with a 1 or 2 per cent. salt solution and then dusted with calomel.

5. Fissures or rhagades about the mouth may also be treated with calomel powder, or if they are at all persistent they may be carefully touched up with a 10 per cent. chromic acid solution or with a 1 per cent. sublimate solution.

6. For persistent or unyielding onychia, mercurial plaster wound about the finger gives favorable results.

7. For anemia the various iron tonics may be employed.

8. For mercurial enteritis, which sometimes occurs, the mercury should be stopped and the treatment should be directed toward the enteric condition, as is usually practiced in such cases.

9. For tertiary symptoms, such as the severe headaches, the bone involvement and the visceral lesions, the iodids should be employed or, where the symptoms are urgent, a mixed treatment may be used; for such cases the iodids and mercury should be pushed.

The influence of the specific treatment becomes apparent in a few days. The eruption becomes paler and new skin lesions seem to be prevented. The rhagades and the patches on the mucous membrane seem to improve after four or five days' treatment. The pseudo-paralysis, due to the osteochondritis, improves rapidly. Most resistant against treatment is the rhinitis. The discharge of secretion will continue for a long time, and even after this has ceased a peculiar noisy or snuffling respiration continues.

THE DIET.

If it is possible, these infants should be nursed by the mother. This is a great advantage to the infants. They are less liable, as a rule, to become rachitic, and it is a known fact that syphilitic children are especially susceptible to rickets. It is not right, however, that a wet nurse should be chosen for these children. The danger of infecting the wet nurse is extremely great and in every instance unjustifiable. This danger, it is well known, does not exist so far as the mother is concerned. It is known, as is expressed by Colle's law, that a mother may give birth to a syphilitic child, though she may remain free from any evidences of syphilitic infection. She may nurse that child and still remain free from infection. So far as the artificial feeding is concerned, syphilis, as well as all other general intoxications, tends to retard the development of infants and interferes with the nutrition. Congenital syphilis, then, predisposes the infant to atrophy or marasmus.

Syphilitic children are predisposed to alimentary disturbances, and they are also more susceptible to intercurrent acute infections, particularly septic conditions. There is no doubt that the study of a large number of these cases shows that the mortality is by far greater among the infants that are artificially fed than among those syphilitic children that are breast fed.

ETIOLOGY AND DIAGNOSIS OF TUBERCULAR SPONDYLITIS IN INFANCY AND CHILDHOOD*

J. H. HESS, M.D.

CHICAGO.

The first case which I am to describe, and which is rightfully the only one of the two cases detailed which belongs in this paper because of the

* Read before the annual meeting of the Illinois State Medical Society at Springfield, May, 1906.

age of the second patient, is that of a fine boy, aged 21 months, whose first 16 months were almost devoid of any illness. At about the age of 16 months he first began to suffer from bronchitis, and during the ensuing three months suffered from three attacks, each more persistent than the preceding. About this time we get a history of a fall backward against a bed which hurt him severely and from which he suffered for some hours; this may or may not be a factor. At 19 months he first gave evidence of pain in his right knee which caused him temporarily to cease walking, and showed signs of redness and swelling. At this time a diagnosis of rheumatism was made and treated accordingly, the local signs disappearing and he apparently improving generally. He was not seen again for some days when the mother stated that his walking again became impaired, and it was noted that he was running a persistent evening temperature of 99.5 to 102 F., with occasional morning elevation. During this time his heart, lungs, blood and urine examinations were negative, but his walking remained impaired and apparently painful, and, as remarked by his mother, his disposition had changed decidedly. During the ensuing two weeks repeated examinations of the spine were apparently negative to inspection and palpation, most of the symptoms pointing to involvement of the right leg. Three weeks before his death the first spinal rigidity became apparent, his attitude being one of over-erectness with some evidence of lordosis; his walk was careful and he would look for something to support himself, being unsteady and wobbly.

In Case 1 there was no apparent psoas contraction, probably due to the fact that the abscess at the time of death was distinctly localized to the region of the third and fourth lumbar vertebral bodies. He could not be induced to stoop and attempt at making him assume the posture caused him to cry. He apparently suffered his most intense pain when being dressed upon awakening in the morning, at which time he would frequently cry pitifully. Extension of the lumbar spine very late gave evidence of pain in this region, but not until four days before his coma could it be positively stated that there was an increased rigidity on manipulation, although his gait indicated it some time previously. Rectal examination was negative.

Ten days before his death *x*-ray pictures were taken of his spine in the anterior-posterior and lateral diameters. To facilitate the same he was given a light chloroform, ether and alcohol narcosis, from which he never returned to consciousness, dying on the tenth day with meningeal symptoms. Although he had been very irritable previous to the administration of the anesthetic his mind seemed clear and active, rather remarkable when we consider the gross pathological lesions and numerous tubercles found histologically in the brain substances and meninges.

Diagnosis.—Tuberculosis of third and fourth lumbar vertebrae and tuberculous meningitis.

Autopsy Report.—Acute generalized military tuberculosis. Tubercular basilar lepto-meningitis. Internal hydrocephalus. Chronic caseous tuberculosis of left peribronchial lymph glands with absorption atelectasis in left upper lobe. Caseous tubercular nodules in kidneys. Tuberculous foci of third and fourth lumbar vertebrae and intervertebral substance.

with right-sided, extra-vertebral tubercular abscesses. Acute suppurative and ulcerative follicular enteritis and colitis. Hypostatic congestion of lung (slight).

External Appearances.—The body is that of a poorly-nourished, much wasted child about 2 years old. There is much posterior lividity and some purple spots scattered over the body.

Abdominal Cavity.—The peritoneal cavity contains slightly more fluid than normal. The omentum is free and contains a small amount of fat. The liver lies one finger's breadth below the costal arch. There is a small amount of fibrin on the surface of the liver, some also on the stomach. Inguinal and femoral rings are closed. No changes are found in the hypogastric arteries or umbilical vein. The mesenteric and retro-peritoneal lymph glands are not enlarged.

Pleural and pericardial cavities show no changes.

Heart appears normal, except that the myocardium is pale.

Lungs.—At the hilum of the left lung is a mass of very firmly caseous glands varying from one to two cm. in diameter. One caseous area involves the lung tissue. A small area of the lungs near these glands is atelectatic. The glands of the other lung and of the anterior mediastinum show no changes. The lungs themselves show slight hypostatic congestion and are studded throughout with minute pinpoint white areas, apparently miliary tubercles.

Liver.—It is a trifle larger than normal. Beneath the serosa of the left lobe are a few minute yellowish points not raised; they extend a short distance into the parenchyma. On the cut surface there appears many pale areas of mottling, distributed irregularly, forming perhaps one-sixth of entire substance. No tubercles are seen in the liver substance.

Spleen.—This organ is about normal in consistence; no gross changes recognized.

Adrenals appear to be normal.

Kidneys.—The left kidney is rather soft and the parenchyma is pale. The cortical markings are less distinct than normal. The capsule strips easily, leaving a smooth surface. In the kidney substance are two sharply circumscribed, irregular, firm, slightly yellowish nodules, one 2 by 4 mm., the other 1 mm. in diameter. The right kidney in general resembles the left; it contains two whitish areas, 1 mm. in diameter, in the cortex.

Urinary bladder shows no changes.

Stomach and Intestines.—The stomach shows great postmortem changes so that it is very soft and is torn by removing it. In the small intestine the Peyer's patches are slightly swollen and congested and occasional follicular ulcers are present, mostly near the junction of the ileum and jejunum. A number of the solitary follicles in the colon are replaced by pinhead-sized ulcers, with raised congested margins. Of the other follicles some contain abscesses, some are congested and some are normal. The peritoneum over some of them is involved.

Vertebral Column.—To the right of the third lumbar vertebra, lifting up the soft tissue, is a collection of from 5 to 10 c.c. of thick, yellow pus,

distinctly limited by fibrous tissue. The psoas muscles are not involved. A cross-section shows the bodies of the third and fourth vertebræ and intervertebral substance to be partly replaced by some purulent material; the destruction involved the posterior portion of the bodies of the vertebræ and more on the right side. The third is more completely destroyed than the fourth, containing no red marrow at all, but is purulent looking throughout the spongy portion.

Brain and Meninges.—When the meninges were opened at the third lumbar vertebra a considerable amount of cerebrospinal fluid escaped, apparently under pressure. The meninges here show no changes. There are no changes in the skull or dura of the brain. The brain is apparently under great internal pressure. The convolutions being much flattened and closely approximated to the dura without intervening fluid the vertex of the brain is dry. No changes over vertex; anterior fontanelle is still open, but no gaping of sutures. At the base of the brain around the optic chiasma and other cranial nerves the spaces are completely filled by a solid mass of grayish-yellow fibrous exudate which also extends a short distance along the great fissures. A few gray tubercles are seen beneath the pia in the vicinity of this exudate, but none in the exudate itself. On opening the brain, the lateral ventricles are seen to be much distended, but the fluid has escaped. Numerous tubercles up to 1 mm. in diameter are seen scattered throughout both white and gray substance of the cerebrum and cerebellum, about a dozen being seen in one cross-section of the brain.

Bacteriological Report.—Smears from abscess by the side of the vertebræ show tubercle bacilli in various stages of preservation and not many cellular elements. Cultures from same in bouillon and plain agar remain sterile after two weeks.

HISTOLOGICAL REPORT.

Myocardium.—The heart muscle appears normal.

Spleen.—The veins and pulp spaces are congested. Scattered throughout the organ in the pulp Malpighian corpuscles, trabeculae and capsule are numerous miliary tubercles; they are in all stages from the incipient proliferation of fibroblasts to the full-grown tubercle and contain an unusual number of giant cells; none show healing. The number of these tubercles is so great that they occupy about one-fourth of the entire area of the sections.

Kidneys.—The intertubular capillaries show considerable congestion. There are five or six rather large tubercles at the junction of the cortex and medulla; one of these had grown in the wall of the arciform artery and occluded it. Corticalward from this the tubules show deep red, staining with pyknosis of nuclei—young infarct. The tubercles all have giant cells and one blood vessel shows a giant cell free in the blood stream.

Liver.—Under the capsule and in the glissonian tissue there are many very young tubercles. Some are mere areas of necrosis with a giant cell in the center or are without giant cells and have accumulations of lymphoid tissue around an area of fibroblasts. There are many multinuclear

liver cells, especially in the subcapsular zone. Some of the cells contain as many as eight nuclei.

Lung.—A section taken near a caseous lymph gland shows an area of almost complete atelectasis, containing two large caseous tubercles and many miliary ones; there are numerous giant cells, as many as six to a cell or tubercle. Outside this area there are a few miliary tubercles situated in thickened and infiltrated parenchyma. Some of the alveoli show emphysematous dilation.

Intestine.—The solitary lymph nodules are the seat of tuberculous processes from hyperplasia of fibroblasts to rather large caseous tubercles. The change seems entirely confined to these regions and does not affect the peritoneum. There is considerable digestion of the mucosa.

Brain and meninges.—Sections through the cortex show rather large, well-formed caseous tubercles of typical structure located in the brain substance. There is a great accumulation of round cells about them. The meninges show infiltration with lymphoid cells. The chorioid plexus appears normal.

This case presents many instructive features:

1. Several persistent bronchial attacks with almost negative physical findings. On autopsy an old process in the peribronchial glands with more recent involvement of the parenchyma.

2. The acute onset of the spinal caries with its rapidly fatal course, a few months after a bad fall.

3. Late appearance of symptoms pointing to spinal involvement with remote symptoms pointing to the lower extremity and probably due to pressure on the nerve supply leading to the parts involved or involvement of the root nerves directly; the process on the same side as the tubercular abscess.

4. Precipitation of the fatal issue by the anesthetic, whether due to raising of blood pressure with subsequent rupture of some of the tubercles into the blood stream, the manipulation of the spine under the anesthetic with dissemination of the infection or a lowered resistance due to the chemical action of the anesthetic can never be known. With reference to the third probable cause, the work of Rubin is of intense interest and may shed considerable light on the rapidly fatal issue. In a series of animal experiments he sums up the following conclusions:

That alcohol, ether and chloroform have a decided influence on the natural defenses against infection, and that this lowering and suspension of resisting power of the animal is not due to any apparent organic lesions, since no changes in any of the vital organs were discoverable in any of the animals, except such as were caused by the infectious material employed (pneumococcus and streptococcus). 2. The narcotics appear directly to influence the substance or substances which inhibit the growth and toxic action of bacteria in the normal animal, and these substances are either the leucocytes themselves or something derived from them, or both. 3. The period of detrimental action of the narcotic depends largely on the amount administered, the depth of narcosis and the rapidity of its

elimination from the system. (He used hypodermic injections, but believes the source of absorption is immaterial.)

Snell, in a series of experiments with anthrax infections, found that alcohol and ether suspend conferred immunity and that in every instance the injection proved fatal to animals, otherwise immune, when they were subjected to narcotics.

A review of the histological findings can not help but convince us that the fatal issue with its preceding coma was not far distant.

CASE 2.—Young man, aged 21 years, operated on for appendicitis three months before death. The pericecal glands were found enlarged and in the region of the fourth lumbar vertebra. On the right side a tumefaction was found which was thought to be a lumbar abscess and was left undisturbed. The wound healed readily and the boy left the hospital on the tenth day. Three weeks after operation pain reappeared on the right side over the area of the operation, remained at this point for a few days and then shifted more to the left of the spine, where it remained more intense until his death, which is rather exceptional when we note that the abscess was to the right of the spine, but may be accounted for by the kidney findings on the left side.

The boy had no visible deformity, walked one week before death, though his gait had been somewhat impaired and stiff, and distinct muscular rigidity was first noted one week before coma, which appeared three days before his death.

Diagnosis.—Tuberculosis of the fourth lumbar vertebra, with previous uremia and appendicitis.

Autopsy Report.—Tuberculosis of peribronchial, mediastinal, peritracheal and peripancræatic lymph glands. Tuberculous caries of third and fourth lumbar vertebrae. Right tuberculous psoas abscess. Hypostatic congestion with terminal gangrene in both lungs. Acute parenchymatous nephritis. Left hydro-uretro-nephrosis. Obliterative fibrous pericarditis. Bilateral fibrous and serous pleuritis. Recent amputation of appendix. Tubercles in liver, kidney and spleen.

External Appearances.—The body is that of a tall, slender young man, 172 cm. in length. Superficial lymph glands not palpable. Narrow white scar completely healed over McBurney's point. Also superficial scar over the chest is shown. No other abnormalities found.

Abdominal Cavity.—Inguinal and femoral rings closed. The external surface of cecum is adherent by firm adhesion to parietal peritoneum over an area about 6 cm. in length corresponding to the scar. There are few adhesions to the parietal wall posteriorly; all easily torn. Vermiform appendix is missing and a firm lump marking the attachment of the stump to the cecum, as well as a silk ligature, remains. The lymph glands in this region are not enlarged. No sign of infection is seen in the same part. The peritoneum in general is smooth and shining. Omentum free from adhesions. Peritoneal cavity very dry. Mesenteric and retroperitoneal lymph glands are not enlarged. Left ureter is greatly dilated; stomach moderately dilated. No adhesions about the gall bladder nor

liver. The diaphragm extends down to the fourth intercostal space on the right side and to the fifth on the left.

Pleural Cavity.—Intermediastinum negative. Lungs collapsed well. Thymus largely replaced by fat. In the superior part of anterior mediastinum is a caseous lymph gland 5 mm. in diameter. The left pleural cavity contains 300 c.c. of blood-stained fluid; shows upper part completely obliterated by firm adhesions.

Pericardial Cavity.—Completely obliterated by fibrous adhesions which are not very dense. Over the base of the heart lie a number of tuberculous lymph glands intimately adhered to external surface of the pericardium. There are no evidences of tuberculosis in the pericardium.

Heart, Aorta and Vessels.—Heart normal in size. Aortic and pulmonary valves negative. Large mass of caseous lymph glands between the pulmonary artery and left auricle. The beginning of the aorta is smooth. Mitral and tricuspid valves are negative. Foramen ovale is closed. Myocardium normal.

Lungs.—Left: Anteriorly is very pale; posteriorly is dark. There are numerous ecchymoses beneath the pleura. The posterior portion of the upper lobe is greenish or grayish-yellow and the discoloration corresponds to the horizontal line of gravity. The upper portion of the lower lobe is also somewhat similarly discolored. On pressing the lungs gas bubbles escaped from all over the surface, but they had no foul odor and did not burn when a lighted match was applied. Boggy, darker areas, particularly in the lower part. There is no definite consolidation. The glands of the hilus are largely caseous, non-calcified. Cut surface, lower lobe, was seen to be dark, moist, exuding much fluid which is not very frothy. Along side the larger bronchi minute caseous masses are occasionally found. A cut through the necrotic portion of the lower lobe was seen to be darker and more brownish in coloration. Right lung: The same brownish discoloration at the posterior portion, limited to the posterior part of lower lobe. One small hemorrhagic infarct, 7 mm. in diameter, at posterior surface. Except in the lesser extent of the processes, the right lung corresponds to the left.

Peribronchial Lymph Glands are caseous and much enlarged; no calcification.

Liver.—The external surface is negative. Cut surface is normal. Periphery of lobules a trifle lighter. In one place near to the capsule there is a pale area about 3 mm. in diameter.

Spleen.—Is normal in size. Cut surface showed a number of small yellow tubercles.

Pancreas.—Normal.

Gastrointestinal Tract.—Normal.

Adrenals.—Both are negative.

Kidney.—Left: Pelvis enormously dilated, measuring about 10 cm. in breadth. The kidney substance is reduced to $1/6$ the normal bulk and contains one cyst $1\frac{1}{2}$ cm. in diameter. When cut open one island of comparatively normal tissue remains at the lower pole, the rest has been atrophied to a thin shell forming part of the wall of the dilated pelvis.

Right.—Larger than normal, cortex greatly thickened to about 10 mm. In one place there is a pale yellow area. Cortical margin is obscured. The substance is soft, pinkish-gray and swollen.

Urinary Tract.—The urinary bladder contains much turbid urine and its mucosa appears normal. The orifices of the ureters are normal. No obstruction in the ureters. The right ureter is normal. The left is greatly distended and measures 3 to 4 cm. in circumference in the lower part. But a portion 6 cm. long just below the pelvis appears normal.

Generative Organs.—Prostate is normal; testicles show no changes.

Muscular System.—Left psoas is normal. The right psoas is converted into a sac containing a thin yellow pus which follows down to and through Poupart's ligament, but not farther. The small amount of muscular tissue left in the upper part is pale and waxy in appearance. The upper part of this abscess communicates with the eroded third lumbar vertebra.

Skeleton.—The body of the third lumbar vertebra at its posterior portion is entirely destroyed and replaced by a yellowish mass, also involving the intervertebral disc and part of the posterior portion of fourth lumbar vertebra. The anterior part of the vertebra remains.

Lymph Glands.—The lymph glands about the trachea are all caseous and all reduced into one mass. Caseation in the peribronchial, mediastinal, pericardial and peripancreatic lymph glands.

1. This case presents rather a different phase than Case 1 in that the referred pains were in the abdomen rather than the extremities, although the same vertebrae were involved.

2. The masking of the symptoms by the presence of the left kidney lesion and apparent late development of the spinal symptoms, although the beginning abscess had been noted at the operation three months before death.

3. The short time (four days) that the patient was unable to leave his bed before coma, while almost the entire body of the fourth lumbar vertebra had become necrosed.

These two cases have several points in common—primary involvement of peribronchial glands, with secondary extension to the spine, with all early symptoms pointing to distant parts and all absence of spinal deformity.

The etiology of tuberculosis in infancy and childhood has in the past decade been the subject of numerous discussions and a vast amount of research. Many theories as to the frequency of the various sources of entrance of the infection have been advanced. Carefully compiled statistics showing the relative age frequency as associated with the more frequent lesions at those periods are at hand, but in going over the literature I find very few cases reported which show definitely the primary focus of infection to which we can ascribe the secondary infection in our spinal cases. In our cases with the finding of old caseous peribronchial glands with apparently all other foci of more recent infection, the possibility of a primary infection of the tonsils or aural mucous membranes may be considered the source of infection.

The tubercle bacilli may be introduced to the body by inhalation and find their way to the bronchial glands, or by the mouth, and set up disease in the mesenteric glands; or, following infection of the nasal passage or neighboring parts, secondary disease of the cervical lymphatics may develop and by direct extension involve the peribronchial glands.

In discussing the location invaded by tubercle bacilli, we usually assume that the lymph nodes involved were infected by direct extension from the mucous membranes of their corresponding organs. This may be the general rule and is verified by numerous pathological reports. It is, however, doubtful if it always holds true.

Most frequently the extension appears to be by the lymph stream, but the tendency in children to rapid and frequent infection of the internal organs and to generalization of the tuberculosis also points to the blood stream as a frequent route; and, as the lymph nodes are especially susceptible, there is nothing against the assumption that they may be infected by the blood.

It should also be borne in mind that there appears to be nothing in the way of assuming that tubercle bacilli may pass through one or more groups of lymph nodes before they become stationary and set up inflammation. This has been especially emphasized by the work of Grawitz, who mentions the possibility of a descending tuberculosis from the tonsils and cervical nodes to the tracheal and bronchial nodes and finally attacking the lungs. Aufrecht and Beckman also quote probable primary tonsillar infection. The question naturally arises, Does not each organ possess its definite lymphatic organs, which are a distinct and isolated system, and must not an extension from this local focus be by way of the blood?

It is a fact that, although tuberculous inflammation, like many other morbid processes, is prone to remain localized within a certain part of the lymphatic system (Weigert), extensions to other groups of lymph nodes and lymph vessels may take place comparatively easy in a direction opposite to that of the lymph current. This condition is facilitated when some lymph vessels have become obliterated; the extension will then take place through the capillary communications which exist between the various regions.

One may also have an ascending tuberculosis from the abdominal lymph nodes to the chest. The infection, which in such cases probably has taken place through the intestinal mucosa, first attacks the mesenteric nodes and extends to the retroperitoneal nodes and further to the various groups situated in the chest and neck. More frequently the infection spreads downward from a certain primary focus to other groups, frequently starting in caseous nodes beneath the lower jaw and along the entire neck, not infrequently involving the supraclavicular and axillary regions, and, further, in the posterior mediastinum along the trachea in the pulmonary hilus and outward along the bronchi; finally, in the mesentery and retroperitoneal tissue from the diaphragm, downward along the spine and iliac vessels and occasionally involving the inguinal glands.

In reviewing the literature it is markedly evident that the mouth,

tonsils, pharynx and their regional lymph nodes have not received enough attention as to possible primary seat of many infections. It becomes self-evident that with beginning caseation and destruction of the localizing influence of the normal glandular tissue the danger of rupture into the blood stream becomes great and the possibility of the general distribution of the infection evident. This may be facilitated by trauma, as the manipulation under anesthetic in Case 1, or by the gradual destruction of the enveloping tissues. Such a condition is manifested by a general miliary tuberculosis.

Diagnosis.—It is a well-known fact that in tubercular spondylitis at various levels of the cord we get a variety of referred symptoms unequaled by any other chronic condition to which patients are subject, varying from earache to sciatica and from hyperesthesias to severe joint involvement, but usually early in the disease, whether it be in the cervical, dorsal or lumbar regions. We find more or less marked some or all of the following group of symptoms: 1, Pain; 2, stiffness; 3, weakness; 4, awkwardness; 5, deformity, associated with an irregular temperature.

Pain.—We are easily led by the absence of a localized area of pain which early in the disease is the rule, because of the depth at which the lesion is located and the tendency to burrow downward and forward, therefore sensitiveness to pressure on the projecting spinous processes is unusual, and palpation, except in the cervical region, is of comparatively little diagnostic value. Instead of local pain we have distributed reflexly to distant points pain along the trunks whose filaments supply the bodies involved. The pain of Pott's disease is usually not a constant one, but rather induced by unguarded movements and trauma. The former of these accounts for the "night cry" when the protecting muscular spasm is relaxed and the child unconsciously moves the spine.

Stiffness or Loss of Normal Mobility.—Is due to two factors: first, part voluntary, in that the patient adopts his movements and attitudes to the disease and pain, thus avoiding possible jars and strains; second, by the involuntary muscular tension and contraction of the muscles about the seat of disease. This is the most important and usually earliest diagnostic symptom of Pott's disease and varies in degree with the amount of underlying disease.

Weakness.—"Loss of walk," the refusal to stand or the desire for support is seen early and easily accounted for when we realize that the body support is in a state of disease and its strength undermined.

Awkwardness.—A symptom-complex caused by the preceding three—pain, stiffness and weakness—and resulting in a change in the habitual attitudes of the patient. This group of symptoms is important in the localizing of the seat of the disease.

Deformity.—Under this head we must classify the signs into: 1, bone deformity due to the destructive process in the vertebral bodies; 2, muscular deformity, the distortions due to muscular spasm or contraction; 3, compensatory deformity, the more general effect of the local disease and local distortion upon the spine as a whole. These range in intensity and degree with the local irritation of the surrounding tissues and the

amount of destruction of the bones involved. They are later signs and unfortunately usually indicate considerable progress of the disease and fortunate is he who has not needed them to complete his diagnosis. Copeland's test depends upon the development of a hypersensitiveness to heat over the seat of disease and best elicited by passing a test tube, filled with hot water, along the spine over the transverse processes.

Early *x-ray* examinations are of great importance in these cases, which are so clearly illustrated in Case 1, where the degree of destruction, though only moderate, can be localized beyond a doubt, also the common danger of misinterpreting the reflected pains as local diseases in the parts affected, illustrated by the early conclusions in both of the cases here reported.

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SARCOMA IN CHILDHOOD, WITH REPORT OF CASE.*

W. K. NEWCOMB, M.D.

CHAMPAIGN, ILL.

It is not within the province of this paper to enter into any details of the treatment of sarcoma. That the prospect is uninviting is acknowledged, but it is not so serious as to prohibit a trial. From the experience of some of our own surgeons, and notably from a few European operators, we gather some crumbs of comfort. In operating sarcoma of the kidneys in children the mortality runs exceedingly high owing to frequent subsequent involvement of the remaining kidney. Bland Sutton estimates that 95 per cent. succumb either to the primary operation or to the recurrence, but in cases involving the neck, jaws, tongue and extremities the outlook is not so grave. Especially important is it that the general practitioner who usually sees these cases first should encourage interference at the earliest possible moment.

Statistics varying from 16 to 40 per cent. of recoveries are given, according to location and stage at which treatment was inaugurated, and there is no doubt that this number could be materially increased if the profession would adopt a more hopeful tone and insist on immediate intervention. Operation is not mentioned in this connection because it can not always be secured, although far preferable to other means, but whatever method the physician is led to adopt he must begin early.

The conclusions of the investigators who have taken up the subject of

* Read before the annual meeting of the Illinois State Medical Society at Springfield, May, 1906.

sarcoma seem to be universal, that no age or tissue is exempt from its inroads, Sutton says, "from the fetus in utero and the child newborn, to the extreme limit of age." But while examination of the files of medical journals and current literature of the day show abundant reports and extensive investigation of sarcoma in general, the literature of sarcoma in children is meager and inaccessible, most surgical writers passing the subject with mere mention, some not even mentioning it at all. Macdonald, in his *Surgical Diagnosis*, says of sarcomata: "They are rarest in children, rare between the ages of ten and twenty years, most frequent in middle life, and rarer in old age."

That this neoplasm is very common in childhood is generally admitted. That it is not so generally reported is apparent. That sarcoma in the adult is on the increase is unquestionable. That there is a corresponding increase in children is probable. That the seemingly small number of cases reported is due to the fact that infants and young children are not so generally presented for operation, and owing to tender years and lack of vitality are not so generally accepted for operation when they are presented. It is not the custom either in the morgue or in private practice to hold postmortem examinations on young children as frequently as on adults. The query is here raised, is not sarcoma in childhood more common than it is generally supposed to be?

If the cases are diagnosed reports are very meager; reports of two cases have appeared in the *Journal of the American Medical Association* in the last two months. One, a case of sarcoma of the testicle, with metastasis in the lung of a child three and a half years old, reported by Dr. F. S. Spearman, Whiting, Iowa. This report brought forth another by G. Betton Massey of Philadelphia, of a congenital case of sarcoma of the orbit. These cases have been carefully and accurately reported, but what a multitude of cases could be added if the general practitioners would investigate their cases and report them.

The claim of Dr. Guthrie McConnell of St. Louis, derived from the last census report, that cancer is most prevalent in rural districts, is believed to be well founded, and further that it will hold good in sarcoma of children whenever the subject shall be thoroughly investigated. Metastasis of sarcoma of the genito-urinary tract into the lung, which is common, is believed to be a source of confusion, such cases being mistaken for tuberculosis.

Since sarcoma is accepted as being a connective tissue growth, and since childhood is the most active period of connective tissue development, should we not reasonably expect that sarcoma would be uncommonly prevalent at this age? Should it not furnish an extraordinarily fruitful field for investigation in this line? Certainly if we accept in any degree the embryological theory of development of these growths from the meso-blast, we have an added reason for investigating them during the earliest periods of their existence.

Dr. Carl Stern's compilation in the *Deutsche Medicinische Wochenschrift* presents a summary of cases, which is as follows: Nose, 1; leg, 2; shoulder, 1; axilla, 1; forearm, 1; tongue, 1; cerebellum, 1; vagina, 2; uterus, 3; ovary, 2; testicle, 3; prostate, 4; retroperitoneal glands, 2;

pancreas, 1; liver, 2; esophagus, 1; small intestine, 2. Of these cases, the ages ranged from 10 days to 15 years, three cases, being believed to be congenital, being from mothers already infected, while in one case of sarcoma of the nose in a newborn babe the mother was healthy. Stern also quotes Rohrer, who compiled 115 cases, of which one-third were under 10 years of age. One significant feature of Stern's compilation of cases is that fourteen of the thirty cases showed involvement of the genito-urinary tract, a very common complication of this malady.

In presenting this case and specimen for your consideration, nothing especially unusual or interesting is claimed except to direct attention to the youth of the patient, the size of the growth and the lack of constitutional symptoms accompanying its development and to notice the double cross of cancer on the paternal side, to which is added a double history of tuberculosis, also on the paternal side. The patient's history is as follows:

M. T., aged 5, had no childhood disease except whooping-cough, no unusual ailment except that, at 9 days old, the skin came off the whole body in large flakes, in some places deep enough to cause sores, especially on the heels. In October, 1904, she complained of pain in right iliac region, which subsided in a few days.

Health rather good until May 1, 1905, when she was re-examined, and a large abdominal tumor found. There was no pain of a serious nature and no constitutional symptoms. Temperature and pulse normal. Complaint at this time was of obstruction of the bowels, incomplete but persistent. External examination of the abdomen showed a large solid tumor filling the whole abdominal cavity. Rectal examination showed the tumor to be attached to the entire anterior wall of the sacrum and a diagnosis of inoperable tumor, probably sarcoma, made. At the request of the parents an exploratory operation was made and a number of intestinal adhesions broken up, which gave relief to the obstruction of the bowels and added greatly to the patient's comfort. The tumor was not removed. The child lived six months after the operation. The tumor was removed postmortem. It originated from connective tissue on the entire anterior surface of the sacrum and on microscopic examination was found to be a fibrosarcoma of the spindle-cell variety, the usual form in this locality.

Family history shows two sisters and one brother all in good health. Father and mother well, have had nothing but slight ailments. The paternal grandmother died of cancer of the stomach. One paternal aunt died of cancer of the breast. Two second cousins on the paternal side died of tuberculosis, on the maternal side no history of any hereditary disease could be found.

MEDICAL OPHTHALMOSCOPY.*

J. F. BURKHOLDER, M.D.

CHICAGO.

The title of this paper may, to many present, imply almost anything referable to disease of the eye. The strict interpretation of the term medical ophthalmoscopy, however, is "the examination of the interior of

* Read before the Annual Meeting of the Illinois State Medical Society at Springfield, Ill., May, 1906.

the eye by means of the ophthalmoscope as an aid to diagnosis in internal medicine." The contents of this paper will, therefore, deal with the subject in strict conformity with its definition and not deviate into such discussions as the differential diagnosis of iritis and conjunctivitis, of iritis and glaucoma, because, for the good of humanity and the credit of our profession, be it said that practically all reputable medical colleges now teach ophthalmology. It is a matter for sincere congratulation to see how nicely and precisely the recent graduate can diagnose many of the acute inflammatory diseases of the eye and prescribe the necessary treatment. This surely is as it ought to be. It is a grave error for a physician to treat a case of acute iritis as a conjunctivitis, or a glaucoma as an iritis, thereby causing or being instrumental in the loss of an eye or its function. Yet every ophthalmologist comes in touch with such cases altogether too frequently, to the distress of the patient and discredit of medicine.

The few words contained in this paper might be designated as a plea for the more frequent use of the ophthalmoscope in the hands of the profession in general. The ophthalmoscope is a much maligned and long-suffering instrument, and unjustly so. We very seldom see it used for the study of morbid processes except in the hands of the specialist, and then very often with a great deal of mystery. This certainly is not in conformity with a broad and just interpretation of medical ethics.

I am pleased to note that in some of the schools in Chicago, and I hope elsewhere, students are taught to use this instrument. The ophthalmoscope should be a part of the physician's armamentarium with almost as much regularity as the stethoscope is.

The objection invariably raised is that the general practitioner can never master this intricate and difficult bit of machinery; granted, but does the ophthalmologist? Does every physician master that useful, simple and universal instrument, the "stethoscope?" How many men of average ability, even after years of active practice, can detect an obscure rôle or locate a faint valvular murmur with unerring precision? Furthermore, because the eye specialist is said never to *master* the instrument is no reason why it should not be of occasional assistance in the diagnosis of disease in the hands of the general practitioner.

It is repeatedly said that it is a very difficult instrument to learn to use. With some it is and with others it is not; in this respect it is like any piece of scientific apparatus, except the thermometer and the watch. Give me a dilated pupil, a reasonably intelligent head behind the glass and I will teach it to see the fundus intelligently in ten minutes. When a student has studied half a dozen normal fundi, he can in a moment detect any marked change. Very slight deviations from the normal are occasionally difficult to detect in this location as they are elsewhere, even by the most skilled and experienced. When a practitioner who is in the habit of using the ophthalmoscope as an aid to the diagnosis of diseases sees what to him appears abnormal and he is not sure of his interpretation, he ought to refer the case to one who in all probability can solve the difficulty rather than give a shotgun prescription and trust to luck. If the

physician can not see the fundus oculi, or pays absolutely no attention to it, as is generally the case, very distinct evidence of local or systemic disease may exist, and the patient put off with a placebo until such time as distinct constitutional evidence of pathological changes arise when the diagnosis is made, but, alas! too late to be of any use to the patient. The man who can use the ophthalmoscope, even as an amateur, has an additional instrument at his command, an instrument of proven value, and is that much more the better man, for sooner or later a case will present itself where this little instrument will enable him to make a correct diagnosis, while without it he will have failed.

One now sees in the offices of many enterprising physicians cards of test-types hung on the wall, obviously for the purpose of testing the acuity of vision. This is exactly right as far as it goes, but it is not enough for the responsible general practitioner or the life insurance examiner. Many a patient has lost his life because a doctor and perhaps the specialist has been satisfied when the vision was normal, when a very elementary examination of the fundus would have revealed in a moment evidence of grave local or constitutional disease. Eye specialists in their haste very often omit the examination of the back of the eye when the patient can read 20/20 or better, assuming that there is nothing wrong. This practice is very reprehensible, for we never know that disease does *not* exist unless we examine. There may be very grave disease, with ample evidence in the fundus and the patient read 20/20. For the last year I have been making drawings of diseased fundi where the vision was 20/20 or better, and the number of such cases and the extent of the lesions would amaze you, and yet these patients have brain tumors, advanced arteriosclerosis or Bright's disease, and the only indication of such disease may be the evidences visible in the fundus.

We had a very unpleasant experience of this nature in our clinic about a year ago. A male patient presented himself for relief from headaches; he had suffered for a long time. He was examined for refractive error, thinking that his headaches were due to eyestrain. Glasses were prescribed, for he had refractive error, and with his correction he could read 20/20; examination of the fundi was neglected. Four months later the patient died, brain tumor, and with choked disc so evident that any tyro who had ever seen the normal fundus would have known that there was something wrong. The profession in general are too prone to assume that all is well so long as the vision is normal. In the matter of making a diagnosis we are never safe in assuming anything; *make the examination thorough.*

Suppose a patient presents himself complaining of persistent headaches, accompanied with vomiting. One naturally makes up his mind that it is due to gastrointestinal troubles, and you give him medicine and he does not improve. You change the medicine and still he is no better. After a time you get ashamed of yourself or you are afraid of losing your retainer and you begin to do something. And now in your study of the case you make a very careful examination from head to foot and you find nothing; what do you do? You purge him and you diet him, you sweat

him and you exercise him, with no benefit, or very little; then you begin at acetanilid and end with a placebo, mental suggestion or a sojourn somewhere. Your friend becomes justly out of patience with you and tries another doctor. His new medical adviser may be somewhat more enterprising, knows you have gone over the patient pretty thoroughly. He likewise goes over the case carefully and, like yourself, finds nothing; but he takes the vision and he finds it good; he then instills a few drops of a 4 per cent. solution of hydrochlorate of cocain in each eye and uses his ophthalmoscope; he finds choked disc; diagnosis, a brain tumor. True, the prognosis is very poor, but you have made the diagnosis, and if you can do nothing you have at least given your patient time to get his house in order.

A female patient presented herself at my clinic to have glasses fitted for reading. She gave the history of failing health for over a year. Her doctor had made several examinations, with negative results, but he had kept her taking medicine. It was about the time for the menopause and he assured her that she would eventually be in good health again. She had of late noticed that her distant vision was not quite so good as usual. Glasses failed to improve the vision and she was taken to the dark room, where a diagnosis of albuminuric retinitis was easily made. Urinalysis revealed advanced Bright's disease. The doctor had failed to keep up his examinations of the urine; a momentary glance at *that* fundus would have made everything wonderfully clear. I invited a doctor, who had just entered the class, and who had never used the ophthalmoscope, did not even possess one, to see the case and examine the fundus. From the manner he began to handle the instrument I knew he had never seen a fundus, but with little assistance he gave me a very good description of what he saw.

Another case, that of a young man of 24, single, with a clean personal and family history. His health had been gradually failing for some time, though he had been under *tonic* treatment. His physician had sent him in to see if there were not some eyestrain that would account for his trouble. His vision was 20/20 with practically no refractive error. The ophthalmoscope showed a chorio-retinitis so distinct that no one could have overlooked it. Treatment, mereury and iodid, with immediate results.

A fundus examination will occasionally clear up the difficulty in making the diagnosis in miliary tuberculosis, though the number of observations reported is small, yet in this disease tubercles do occasionally form in the retina or chorioid. Their development is sometimes very rapid and the size attained may be half that of the disc. They are generally found in the neighborhood of the entrance of the optic nerve and are easily recognized. The diagnosis of miliary tuberculosis is occasionally difficult, and a fundus examination may clear the difficulty.

Perhaps in no class of cases is the ophthalmoscope of so much positive value as in the detection of vascular diseases. These cases form an increasingly large proportion of the general practitioner's work. The cause is unquestionably due in many instances to the great prosperity of the

American citizen. With the abundance of money has come, as a natural consequence a more bountiful supply of food materials, both solid and liquid, with a preponderating increase of meat. Make a tour of the Chicago packing-houses and the slaughter is enough to terrify one; the inquiry at once suggests itself: where does it all go? As a people we are eating altogether too much highly nitrogenous food and taking too little oxygen. This lavish food consumption, altogether unnecessary, is throwing too much work of a mechanical nature, to say nothing of the irritability of the chemical poisons produced by improper digestion and elimination, on the vascular system, and there is only one sequence, disease.

Arteriosclerosis is a disease that the physician must combat with all the skill and acumen at his disposal if he would save many of those under his care from untimely graves. We are very apt to consider vascular disease the prerogative of the aged, but this is very often a fatal mistake, for it is frequently well developed in individuals scarcely out of their teens. Many are inclined to pay little attention to this morbid condition until they get a marked accentuation of the second sound or feel a hardened radial or temporal artery; they then realize the precarious condition of the patient, and unfortunately so does their client.

Adler of New York is of the opinion that these vascular changes in practically every case begin in the small vessels. Gull and Sutton recognized this and apparently intended to confine these changes to the small arterioles and capillaries. The increase in the tunica media and the fibrous development in the intima they, therefore, named arteriocardillary fibrosis. Russell of Edinburgh and Taylor of London are very insistent on the earliest possible recognition of this insidious disease. They, however, look to the general constitutional symptoms to assist in making the diagnosis, and very strangely make no reference to the fundus of the eye. notwithstanding the fact that Gowers directed attention to the eye in these cases over a quarter of a century ago. All are aware of the imminent danger a person is in who has advanced vascular disease, though he may be absolutely unconscious of his condition, enjoying the full measure of the pleasures of life. Yet some day the community or his friends are shocked by his sudden death, apoplexy, heart failure or something else; this is especially the case with our high livers. These cases make the study of vascular diseases one of great importance and interest.

What advantages does the fundus offer for the study of the early stages of arteriocardillary fibrosis or arteriosclerosis? The one great feature is the beautiful clearness with which your field of observation can be seen. Another condition is the comparatively high magnification; the retinal arteries as they lie in the disc are perhaps less than the hundredth of an inch in diameter, and yet by the direct method of examination they appear quite large and can be very clearly seen far beyond the disc; the capillaries can not be seen, of course. The walls of the retinal vessels are so thin that they are invisible, and in looking at the fundus what is seen is the blood stream inside the vessel. Remembering that some good authorities insist that the changes just spoken of begin in the very smallest vessels, what an admirable opportunity is offered by these small vessels in the fundus of the eye for study of such changes. If the contention of these pathologists is ever proven to be fact, then will the day be at hand when the general practitioner will be compelled to learn to use the ophthalmoscope.

A young man called to be examined for glasses, seeking relief from constant headaches. He had some error of refraction, and with his correction could read 20/15 with either eye. On examining the fundi I observed a distinct white line on each side of the vessels, beginning in the disc and extending for some distance outside. He gave a history of cerebrospinal meningitis, and here were visible manifestations of arterial changes that would have been absolutely impossible to detect elsewhere.

Mrs. R., aged 50, called to have her reading glasses changed. She volunteered the information that vision in the right eye was not quite so clear as usual, though, with her correction, vision was 20/20. With the ophthalmoscope a large number of hemorrhages of varying sizes could be clearly seen in the lower portion of the right fundus. Fortunately for the patient the neighborhood of the macula escaped. Distinct vascular changes could be seen in the vessel walls in both eyes. She is an active woman engaged in business, and feels absolutely well most of the time. Her father was attacked with blindness in his right eye at the age of 50 and died in five years; a paternal aunt lost the sight of both eyes at the age of 50, but lived until she was 85.

In view of these few remarks can there be any valid reason why the ophthalmoscope should not be accessible to every doctor as soon as he is ready for practice? That the instrument is beyond the ability of any man who is a graduate in medicine does not even require discussion. The individual who is capable of acquiring a passing grade in any college in this country is quite capable of learning to use the ophthalmoscope intelligently.

A most peculiar circumstance has often presented itself to me, and it is this fact: insurance companies will place any amount of insurance on a man so long as he passes the ordinary methods of examination, and yet such an applicant may be suffering from disease so well advanced that were it recognized it would forever debar him. These companies in some particulars are exceedingly keen in a business way, and yet in this very matter they are exceedingly unwary. I do not know of a solitary insurance company that requires a fundus examination, however great the amount of the policy. We are not losing sleep trying to protect the interests of the insurance companies, but we ought in all humanity and honesty to ourselves and our patients, whose lives are so confidently placed at the mercy of knowledge, neglect nothing that will assist us in the smallest measure to discover disease and apply proper treatment.

TREATMENT OF BLENNORRHEA OF THE LACRIMAL SAC WITH ESPECIAL REFERENCE TO SAC EXTIRPATION.*

WILLIS O. NANCE, M.D.

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The modern tendency in the treatment of chronic lacrimal diseases is wisely in the direction of conservatism. Clinical experience has unqualifiedly demonstrated not only the inefficacy of indiscriminate probing, but actual damage resulting therefrom. The canaliculus knife and probe,

* Read before the annual meeting of the Illinois State Medical Society, Springfield, May, 1906.

while still having a legitimate place in lacrimal therapeutics, have prudently given way to the dilator and syringe in many instances with quite satisfactory results, yet there still remains a certain proportion of cases which resist all ordinary therapeutic measures. To this latter class of cases it is my purpose in this paper to especially allude.

The grim obstinacy with which lacrimal blennorrhea frequently resists curative measures is a matter of clinical record, notwithstanding the brilliant published results from various methods, both medicinal and mechanical, which, from time to time, have been exploited for its relief. True it is that most of the cases may be benefited by intelligent syringing, judicious probing, and rational nasal interference, and the nature of the discharge favorably modified and in occasional instances the symptoms entirely relieved, for a time at least, yet the fact remains, as borne out by extensive clinical observation, that the large proportion of patients suffer for months and even years, frequently testing the skill, patience and ingenuity of first one medical man and then another, without obtaining much material benefit or permanent relief.

No hard and fast lines can be defined for the treatment of lacrimal blennorrhea. The process manifests itself in such various conditions that its rational management necessitates intelligent adaptation of remedial agents in accordance with existing conditions. The physician who slits the canaliculi in every case or passes probes of various sizes indiscriminately is no more competent to intelligently treat these cases than he who advises excision of the lacrimal sac as a routine measure.

The mild, recent and uncomplicated cases may best be treated by dilatation and unirritating injections, of which a solution of argyrol (10 to 20 per cent.) is unquestionably the most efficacious. The more chronic cases usually require the passage of probes, followed by injections. The smaller probes (1 to 3 Bowman), as well as the larger, it has been my custom of recent years to seldom employ, the former being objectionable in that even with exceedingly careful technic they are apt to penetrate the mucous membrane, and the latter have never seemed especially indicated and in some instances are positively harmful. It is only in a minority of cases that I believe slitting of the canaliculus is indicated, and when performed I am careful not to destroy the very essential lacrimal pump function by carrying the incision into the sac. In all lacrimal cases it is understood to be intelligent and competent therapeutic management to remedy any coexisting intranasal disease or abnormality.

In a paper read before this society in the year 1900 on "Chronic Inflammation of the Tear Passages"¹ I gave it as my opinion that extirpation of the lacrimal sac was justifiable as a last resort in intractable cases. Experience since that time has led me to adopt less limited restrictions for the performance of this radical operation.

In cases presenting a history of lacrimal suppuration with persistent overflow of tears which have resisted the ordinary methods of treatment with probes, etc., for a long period, or in cases where the patient is unable to remain under treatment or to undergo the pain incident to thorough,

1. Nance, Jour. Am. Med. Asso., Oct. 27, 1900.

persistent and long-continued probing, I do not hesitate to advise extirpation. The satisfactory results obtained have caused me to adopt this wide application of the operation.

Other indications are: repeated attacks of acute dacryocystitis with abscess, chronic distension of the walls of the lacrimal sac with bulging in the lacrimal region which can not be reduced by pressure with the finger, dacryocystoblennorrhoea of a single seeing eye, stubborn chronic fistula of the lacrimal sac, ulcer corneae due to dacryocystoblennorrhoea, and in dacryocystitis as preliminary to operation on the globe of the eye, e. g., cataract operations, iridectomy, etc. The latter indication is positively obligatory. Substitute procedures to prevent communication between the diseased sac and the eye by cauterization or ligation have been proposed, but they have by no means received the unanimous endorsement of the more competent operators.

The operation is best performed in a hospital and general anesthesia is to be preferred, although I have operated successfully in several instances with the hypodermatic injection of the Sleich mixture, to which was added a few drops of adrenalin solution. Good light is essential, severe hemorrhage must be controlled, and the operative technic must be painstaking and thorough. Not only should the sac be dissected out in its entirety, but the mucous membrane of the nasal duct removed as well, or partial restoration of the membrane will take place with recurrence of the suppurative process. This is best accomplished by the use of the galvanocautery point well thrust down into the duct.

Little islands of diseased mucous membrane should be looked for and destroyed before the wound is closed. Buttonholing of the sac should be avoided as far as is possible. Injection of paraffin into the sac preliminary to the operation, as suggested by Simon,² and described by Todd,³ assists in outlining the sac walls. The wound is closed by three sutures and primary union usually takes place. The patient may generally leave the hospital within ten days and should be under observation for a fortnight longer.

The results of the operation are usually highly satisfactory. The annoying epiphora decreases and frequently entirely ceases except when patient is exposed to wind or severe light reflection. Moreover, the absence of suppuration renders the eye free from danger of lacrimal infection in case of injury.

A brief summary of a few illustrative cases is as follows:

C. C., aged 36, head waiter, first consulted me in 1897 on account of lacrimal abscess. During the following five years I treated him for three additional attacks, and for a period of seven years he was never free from an annoying epiphora. Both sacs were extirpated four years ago, with scarcely any annoyance since.

Annie L., aged 46, housewife, persistent overflow of tears for more than ten years. Both canaliculi had been slit and probes passed frequently for many months at a time with little improvement. Had worn

2. Simon, *Tr. Ger. Oph. Soc., Arch. Ophth.*, 1903, p. 44.

3. Todd, *Arch. Ophth.*, 1904, p. 371.

style for several months. Left sac extirpated eighteen months ago with positive relief from symptoms.

Margaret O'D., aged 28, dacryocystoblennorrhea. Under treatment at her home in Indiana two years with little benefit. Walls of sac distended. Epiphora. Eye more or less constantly inflamed. Extirpation followed by a complete subsidence of symptoms.

While conscientious surgical practice necessitates caution in recommending an operation of such a radical nature as the one suggested, the field for its performance is, I believe, greater than is usually recognized, and the results obtained certainly justify its further exploitation.

Basso,⁴ in 1904, in a study of the "Chronic Affections of the Lacrimal Sac After Extirpation of the Same," found in 49 cases examined, simple stenosis without true cicatricial obliteration of canal in 9, obliteration of canal at superior strait with patency of lumen below obliteration point in 3, inferior obliteration of canal more or less extensive in 16, and total obliteration of canal with reduction to fibrous cord in 13. This report would seem to prove not only the inadequacy, but the positive uselessness of the probe treatment in many instances and demonstrates the necessity for more radical measures to effect a cure.

In conclusion, it may be of interest to briefly consider the changes that take place in the lacrimal gland following extirpation of the sac. The troublesome lachrimation gradually disappears, not from atrophy of the gland, but from removal of the constant irritation set up by the disease. The gland recovers its normal function, which, unless influenced by irritation, excitation or reflex processes, is that of inactivity. As Greef⁵ concisely puts it, "The conjunctiva itself is a flat gland which keeps itself moist; the lacrimal gland is an irritating apparatus which usually is not active."

100 State Street.

4. Basso, *Anni di Ott.*, 1904; *Abst. Jour. E. E. N. & T. Dis.*, 1905, p. 102.

5. Greef, *Trans. Ger. Oph. Soc.*, Heidelberg, 1902.

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APRIL, 1907.

COMMERCIAL TENDENCIES OF THE PROFESSION.

Probably nothing so threatens the usefulness of the medical profession as the prevailing tendencies toward commercialism. So great has become this evil that recent writers, both medical and lay, have taken occasion to call attention to it. Dr. L. Emmett Holt of New York, in a recent article on "Medical Tendencies and Ideals,"¹ takes up this subject in a most appropriate manner, and this article should be read by every practitioner in America. It is difficult to select any part of this address for publication, as it should be read in its entirety; however, we give a short extract, and with it a short extract from an address of Dr. Maurice Richardson of Boston, given recently at St. Louis, and, finally, an editorial article from the *World's Work* of September, 1906. We commend these extracts to the thoughtful consideration of all our readers.

COMMERCIALISM.

Of the prevailing tendencies in medicine the one most to be deprecated is that of commercialism. It is perhaps not surprising that our profession, in common with other callings, should feel the baneful influence of this spirit of our age. It is only another evidence of the fact that, in the public mind, material and financial success has come to over-

1. Journal A. M. A., March 16, 1907.

shadow every other form of achievement. Our times have witnessed many examples of the debauching of the legal profession to attain unscrupulous corporate laws. The law, it is said, has almost ceased to be a profession and has become only a business, adopting business methods and business standards. May this never be true of medicine. It is perhaps not to be expected that human nature should be changed by attaining the dignity of writing M.D. But, inasmuch as the traditions of the medical profession are nobler and its responsibilities more sacred than those of most of the professions, the more to be deplored is the spirit of which we are speaking.

Dr. Maurice Richardson says:

The physician's devotion to his patient should be regardless of prospective fees. His responsibilities are never greater than when he is treating the breadwinner of a large family. Indeed, it seems to me that the physician is at times in duty bound to respond first to the urgent call of the poor, because the rich have a choice of physicians which is practically unlimited. The experienced physician knows but too well that in many instances he will be imposed upon; but I think that he should, nevertheless, be too high-minded to object to imposition if thereby some perhaps innocent patient is to benefit. The general practitioner has under his care all the time wives and children who would be the first to suffer if he should decline his services on account of the acts of the father. So it is when one feels himself unfairly treated and refuses to render services to patients innocent of these acts. When, in spite of constant devotion and care, you are abused and criticized, you must remember that the majority of patients know no better. Nothing should trouble you less than such criticisms if your conscience is clear.

SURGEONS' AND PHYSICIANS' FEES.

The best part of the people of the United States are those families that are self-maintaining and self-respecting, being neither poor nor rich—the well-to-do class. They do most of the work of society and they carry most of the burdens. They receive also most of its benefits and its best service of most kinds. But it has become difficult for this class to receive the best medical and surgical service; for, as a rule, as soon as a physician or surgeon becomes famous, he sets his fees so high that none but the rich can pay for them, yet the poor have the services of most of the best surgeons and physicians free, in the hospitals. A self-respecting, well-to-do family must be content with less famous men or impoverish themselves for a time when illness overtakes them. True, some famous physicians are not better than many obscure ones, but reputation is the best measure of skill that the lay public has, and there is always danger in intrusting one's self to an unknown practitioner.

Yet it would be unjust to make a sweeping condemnation of the profession for "capitalizing" its success; for most skilful physicians give a larger part of their time and practice to the poor without any financial reward than men of most other professions give. Still the hardships that the very best class of people suffer become greater as the number of the

rich increases. A pauper and a millionaire may have a dangerous operation performed by the most skilful surgeon in the community. But a self-respecting man of a moderate income who, by any proper measure of men, may be of more value to the community than either the pauper or the millionaire, must take a greater risk at the hands of a less skilful surgeon. This condition violates the spirit of the best social service, and the commercialism of the profession has, to this extent, run away with its ethics. Medical societies might reflect that the scandalous fees of some practitioners are undermining the character of the profession; of that there is no doubt.—*The World's Work*, September, 1906. Doubleday, Page & Co., Chicago and New York.

HISTORY OF A CASE OF TUBERCULAR PLEURISY TREATED BY CHRISTIAN SCIENCE METHODS.

There recently died in central Illinois a prominent attorney who had been a firm believer in Christian Science methods and an active emissary of the Mother Eddy doctrines. In view of all that has been said and written concerning these faddists, we have thought it advisable to give a history of this case for the benefit of our readers and the public in general.

Mr. X. was an intelligent, highly educated, hard-working man of good family. There was some history of tuberculosis in the family, and his father is said to have been peculiar. Mr. X., while a college student ten or twelve years ago, was told he had pulmonary tuberculosis; advised to leave school; live out of doors; and take nourishing diet. He did so and improved. About this time he became interested in Christian Science, and to Christian Science was given all the credit of his improvement from out-of-door life and nourishing food. Then followed a period of school teaching and study of the law, he being finally admitted to the bar, and beginning the practice of law. His researches in Christian Science had become so deep by this time that he came to be listed as a "reader," which is the next thing to being a "healer," and was the leader of the sect in his city. He finally married, and his wife, at his earnest suggestion and teaching, espoused Christian Science. Many others of their friends were influenced by his enthusiasm to believe in this doctrine. A child was born recently, the confinement being conducted under Christian Science doctrine. Both parents claimed there was no suffering or inconvenience at any time, and this made a profound impression on the community. About this time, however, the health of Mr. X. began to fail. He became pale and emaciated, although remaining in good spirits and actively at work. All the time he claimed there was nothing wrong and no suffering. It has developed, however, that he had remained in his bed with a hot water bottle at his side. He must have applied to the Chicago Science healers, for almost daily messages came conveying cheering news and he was evidently receiving absent treatment. This continued up to about a week prior to his death, when one of their healers with a Science nurse, both women from Chicago, appeared and took charge of the case, excluding all members of the family, excepting the wife, from the sick room, and began the active Christian Science treatment, which continued to the time of death. No one knows what it was, as no one was allowed to see him, not even his own mother, till the morning of his death, when his mother

forced her way to the room. At this time one of the healers announced that the trouble was acute pneumonia. We are told that one of the healers was a graduated physician, and made that diagnosis. During the day he became so bad that the family insisted that they call a physician, which was done, regardless of the other healers. The physician, on going to the sick room, saw at once that the man was dying, and when he announced to the patient that he could not live thirty minutes the patient replied, "I am going to get well. I am all right." He was in full possession of his faculties to within one-half minute of his death, which occurred about fifteen minutes after the doctor's arrival. Of course, nothing could be done, and the doctor refused a certificate, knowing nothing as to the cause, and the Science people would tell nothing. The evening of the death an autopsy was held, which revealed the following:

A well-proportioned body, bluish discolorations of the skin, which was said to be present before the death. On opening the abdomen, the liver was found to be displaced downward. The lower border reached to the crest of the ileum, intestines filled with gas and serous effusion; otherwise abdominal organs were normal. The right thoracic cavity contained a little over three gallons of straw-colored fluid. The right lung was so compressed that it could easily have been placed in a pint cup, and displaced to the left of the median line. The lower lobe was the seat of acute inflammation. The pleura was inflamed with foci of pus. The left thoracic cavity was partly normal, yet displaced to the left in the ninth interspace near axillary line. Apex of left lung showed small scar, probably seat of an old trouble ten or twelve years ago, but now perfectly healed. The case was a typical one of pleuro pneumonia with a large effusion. Death due largely to carbonic acid poisoning, due to marked compression of breathing space.

The physicians felt that proper care and treatment in the beginning would have resulted in the cure of this case. They could hardly understand how a human being could withstand the torture resulting from this compression as heroically as did this man. Even with the full facts of this tragedy before them the advocates of Christian Science remain true to the principles they profess. Pity rather than censure should be allotted to these misguided people. They come, some of them, from the best and most intelligent people in the community, and it is to be hoped that the time will come when they will awaken to the enormity of their mistake. If such methods of treatment were pursued by the medical profession the state would be aroused against the doctors from one end to the other, and if the Legislature were in session the speaker or some other intelligent member would introduce resolutions of denunciation. But as these things are done in the name of science and Christianity, of course, there is no complaint.

THE KENTUCKY JOURNAL CLEANS ITS ADVERTISING COLUMNS.

The editor of the *Kentucky Medical Journal*, the official organ of the Kentucky State Medical Society, informs us that his journal has adopted the rule of accepting only advertisements for those preparations that have been approved by the Council on Pharmacy and Chemistry of the American Medical Association.

The *Kentucky Journal* realizes that this action will result in a temporary loss, but knows it will do so much good for the profession and people whom it serves that there should be no hesitation in the matter. The Illinois and California journals having already taken this stand, an active campaign will at once be commenced to induce all journals to take a similar position.

ILLINOIS COMPLETELY ORGANIZED.

Secretary Weis informs us of the organization of a society in Franklin County, which completes the organization of the State Society in every county, and for the first time in its history the State Medical Society of Illinois may be said to be complete. Some twenty-two members of the profession in Franklin County belong to a local organization, eleven of whom are connected with the State Society up to this time. Undoubtedly the remaining members will see their way clear to come into the state organization in the near future.

This makes the total membership of the State Society in good standing at this time 4,514, giving us nine members and nine alternates in the House of Delegates of the American Medical Association. Four years ago our membership was but 3,700, showing an average net growth of 200 per year. The steady growth of the society is a sufficient answer to those members who have predicted a loss of members from the various enterprises undertaken by the state society in the past four years, including the protective feature adopted at the last meeting. Now that the success of the organization is established, we expect to see a much larger growth during the coming year.

The state societies having the largest membership are: New York, with 11,982 physicians; membership of the state society, 6,000.

Pennsylvania, with 9,957 physicians; membership of the state society, 4,693.

Illinois, 9,419 physicians, with membership of the state society, 4,514.

Ohio, 7,710 physicians, with membership of the state society, 3,700.

THE VIAMI TREATMENT, ITS PROMOTERS AND ITS LITERATURE.

Some months ago we devoted a few lines to the Viavi treatment and were immediately besieged by the agents and promoters of this remarkable concern to retract the statements made in that publication. We promised them to give this subject due consideration and immediately referred the matter to the editor of the *California Medical Journal*, Dr. Phillip Mills Jones, whose activity in connection with exposure of all proprietary preparations has made him known to every medical reader in the United States. Dr. Jones being located at San Francisco, the headquarters of Viavi, was able to give this matter all the attention that it deserved, and through his courtesy we are enabled to make the following statements concerning the Viavi treatment.

It is only necessary to correct one mistake, and that is to say that the Viavi preparation does not contain any opiate, as was stated in the previous article. As will be shown in the investigations made it not only does not contain any opium but does not contain much of any other drug. It seems actually so free of medicine as to be inert. The following is an abstract of the full article as sent by Dr. Jones:

Viavi was first promoted by two men by the name of Law and began its career about twenty years ago. One of these brothers seems not to have been a graduate of medicine, the other appears to have graduated in 1893 at the Hahnemann Medical College of the Pacific, a college whose faculty embraces twenty-one professors, one associate professor, twelve lecturers and five demonstrators, in all thirty-nine instructors, and had during the session of 1904 and 1905, thirty-five students, or a few more instructors than students. Beginning with a very small capital these gentlemen by the promotion of the Viavi treatment have become among the most prosperous business men in the city at the Golden Gate. One of the brothers attached himself to the Young Men's Christian Association, and is at this time an officer in that organization. The other was offered a large sum to become adviser to the management of one of the large banking institutions of that city, but could not spare the time from his own affairs. As a result of the promotion of the "original idea" announced by these gentlemen they have been enabled to become possessors of palatial buildings and holdings valued at millions.

The "idea" found its material existence in what is known to the promoters as the "Viavi treatment," and in its essence is so simple as to pass recognition. After reading the Viavi treatment hereafter referred to, and after statements made to us by Dr. Law, in our opinion the merit of the treatment consists in the well-known principle of the vaginal douche. To be sure the real idea, the douche, is masked about and hidden under Viavi capsules and Viavi cerate and Viavi royal, and almost innumerable other Viavi stuff, with curative powers apparently unlimited, as appears from the statements of the promoters hereafter set forth. Other things were cultivated as the territory enlarged under the brilliant management of the promoters, but the original source of the golden stream seems only to be the vaginal douche.

Most women suffer more or less from their reproductive organs and a very considerable amount of this discomfort or suffering is due to lack of common sense cleanliness. And that, as we understand it, is exactly what the agents of the Viavi are eternally preaching; it is almost every other word which is in the documents the concern puts out; keep the vagina clean by the use of the douche, and use a little common sense. The immediate increase of personal comfort and many times the quick relief from some annoying minor ailment which follows upon the exercise of cleanliness and common sense might so hypnotize the average woman who accepts the Viavi preachments and takes the Viavi treatment, that she would be ready to believe anything almost that the promoters care to tell her. But of course no large paying business could be built up by simply selling a little good advice and a trifle of common sense. There must be something definite to take, some wonderful secret and very costly medicine that will work the result, to secure which the douche is but the merest preliminary. Hence the capsules and the cerate,

and the liquid and the royal, and the rest of the wonderful remedies which collectively leave little uncured or incurable by Viavi.

Do the Viavi remedies contain morphin or opium or some habit forming drug? (*JOURNAL*, 1906.)

The very question which we asked was bitterly resented by these gentlemen. They claimed it was a reproach to their self respect even to intimate that they who seek to alleviate the pains of suffering humanity in general could trade upon human life and character by selling to innocent people habit-forming "dope." They sent us copies of all sorts of certificates from analysts showing the absence of any harmful drug. And furthermore, upon reflection we came to the opinion that from the purely business standpoint it was unnecessary to put an expensive article like morphin, and one liable to bring about trouble in the future, into their remedies when they do not need to. We need no further enlightenment and accept the statement that the preparations are free from morphin, etc.

"Were the Viavi remedies used for the prevention of conception or the procuring of abortion?" This query was even more horrible to the promoters than was the former question. The very thought that such objects or purposes could be attributed to them was most painfully distressing to the Messrs. Law, and they felt keenly injured in their self-respect. They assure us in every way by the spoken and written word, that so far from their having ever advocated the repulsive measures suggested their greatest joy in life is to feel that through the benevolent action of their remedies, they have aided thousands to become fruitful and have made the barren woman conceive and bring forth.

We may safely assume that the Viavi treatment is free from opium, morphin, etc., and that the promoters do not encourage the practice of preventing or aborting conception. Such being the case, the question very naturally presents itself: "What is the Viavi treatment, what does it do, and what do the promoters say of it; how do they present their claims, and what do they claim?" The original treatment was directed wholly to the afflictions of women, if we are not mistaken, and consisted of good advice, cleanliness, the douche, and a capsule which was to be placed in the vagina preferably high up and touching the cervix. Later a cerate was made, the argument being that the vagina could not absorb enough of the wonderfully curative remedies contained in the capsule, so they were incorporated in the cerate, which was to be rubbed into the back and belly. Still later a liquid, also possessing the marvelous properties of the capsule and the cerate was put out. At the present time, there seems to be in addition to the three forms mentioned, Viavi Royal, Viavi suppositories, Viavi tablets, Viavi eye treatment, Viavi ear treatment, Viavi tonic, and Viavi laxative.

As to what it is we confess ourselves a trifle at fault. The manufacturers speak of their various preparations as though the great Viavi were an entity, a special and particular substance created for the purpose of being incorporated into all of their various mixtures, of which it becomes the essential and universally curative base. On the other hand, a firm of analytical chemists reported recently, as follows: "The capsules contain no morphin, and so far as we are able to determine, they contain nothing but the extract of hydrastis and cocoa butter." Here is a difference of opinion. As all of the preparations are said to contain "the great Viavi," and as this one is reported to contain nothing but hydrastis and cocoa

butter, we might possibly be excused for holding the belief that hydrastis enters into all of these wonderful compounds and is the multifarious curative agent; or else that the identity of "the great Viavi" changes as it enters into the different preparations.

Local offices are provided in all the principal cities and are presided over by trained specialists in diseases of women who have larger experience with these diseases of women than any other specialists could possibly have. We understand Viavi is promoted by over 3,000 trained promoters.

Examination of patients is entirely unnecessary by the Viavi treatment, the patient makes her own diagnosis, or if a blank health statement is procured, filled out and returned, competent advice will be given upon it.

In one pamphlet we read that "A distinctive feature of the Viavi treatment is the permanency of the cure," while in another we are told that "It is one thing to make a cure complete; it is another to make it permanent. Of course, we can not insure against a recurrence of disease." Of course not. The proprietors of the Viavi treatment not only maintain that their agents are competent to suggest the proper treatment without examination of the patient, and that the omnipotent wisdom of the officials of the home office (or some other) can give competent advice "by mail, but they refer in greatest horror to physician, gynecologist and surgeon," intimating that more harm than good always results from obtaining professional advice from licensed physicians. The gynecologist is referred to as the "body carpenter," and his work as "sacriligious carpentry." We are told by the Messrs. Law in their publications that operations "for the removal of a diseased breast rarely or never prove entirely successful," and that "extirpation or removal of diseased tissue by surgery is worse than useless. A very large proportion of women's diseases were really incurable until the Viavi system of treatment was introduced."

"As for the influence of physicians with regard to the Viavi system of treatment, while many of the broader sort heartily indorse the treatment, some may be found arrayed against it, and ready to condemn it if their opinion of its merits be sought." (It would be interesting to know the names of "many of the broader sort" of physicians who indorse the Viavi treatment.)

"Everything connected with Viavi tends to bring women into a closer relationship with Nature and Nature's God." "Curetting, the ordinarily prescribed treatment for flooding (metrorrhagia), has been rendered obsolete by the Viavi system of treatment." "If the disease is in the form of tumors or polypi in the womb, she will be advised sooner or later, unless she adopts the Viavi system of treatment, to submit to an operation in which her abdomen will be cut open on the median line and the symmetry of her figure destroyed; perhaps she will be advised to submit to the removal of the womb. The Viavi treatment renders all these measures wholly unnecessary."

"The remarkable effectiveness of the Viavi system of treatment places it in the power of healthy wives to limit the number of their offspring for proper reasons, and women who are not fit for maternity to avoid it by natural means." What was it we asked about Viavi being recommended for the prevention of conception?

"Ovarian tumors, uterine tumors, whether inside the cavity, in the

walls or outside the walls; tumors of the vagina and Fallopian tubes; fatty, cystic or fibroid tumors; in fact, tumors of all kinds in all parts of the body, have been treated successfully by the Viavi method." The Young Men's Christian Association must take great pride in itself when it realizes that one of the gentlemen who voice this statement is on its board of control, for is not his modest plea calculated to draw shekels from the pockets of poor suffering women in an anxious pursuit of health?

Nor is it only suffering women who may find relief at the hands of these gentlemen, these prominent citizens of our community who have grown from poverty to affluence, by exploiting the Viavi treatment. They do not hesitate to hold out encouragement to man when he contemplates the loss of his proudest possession, his testicles. For a monetary consideration not stated, the Messrs. Law will give the wonderful Viavi treatment to men afflicted with atrophy of the testicles, and hold out the encouraging intimation of a probable cure.

We recall particularly the case of a man suffering with wasting of the testicles, who secured perfect recovery from Viavi cerate applied to the scrotum. Note the keenness of the wording: The man "secured perfect recovery from the cerate," not from the wasting of the testicles!

Indeed, the keenness of the verbiage is one of the most remarkable things about the Viavi literature, and is but another of the indications of the commercial acumen of the promoters, the Law Brothers; for some years they employed, at no small expense, one of the cleverest writers on the Pacific Coast. Such work as theirs was not to be left to the ordinary "patent medicine" circular writer; their literature, like their "treatment," must be unique, distinctive.

We are told with the greatest air of frankness that appendicitis, paralysis, paresis, locomotor ataxia, asthma, palsy, "and many more proceed from a depletion of nervous force—from nervous debility." While we are nowhere told that all of these conditions can be cured by Viavi, we are told that nervous debility may be prevented or cured by it, and the natural implication, so subtly conveyed by the clever writer, might well produce the result that the poor incurable is parted from his coin; or the person with appendicitis is deluded into giving up, perchance, his life.

The London *Lancet* for March 10, 1900, and Jan. 17, 1903, pays its respects to the Viavi company. In the first-mentioned issue, it commented upon certain facts which came out at an inquest held Feb. 25, 1900, by the coroner of East Sussex, upon the body of a woman who had died while under treatment by the Viavi system. The jury handed in the following verdict:

"We wish to return a verdict of death from natural causes; we also think that the life of the deceased might have been prolonged had she been placed under properly qualified medical treatment, and from the evidence brought before us, we consider the Viavi company a fraud." In another case heard before His Honor, Judge Parry, in the Manchester County Court, on May 17, 1901, the same fraudulent parties had to pay fifty pounds with costs for breach of contract, i. e., for failing to cure.

Yet of such is the business of the "Viavi" constructed: a business which has made two men, starting with practically nothing, affluent. Their patrons consist of confiding sick and suffering women, to whom, not skilled in medicine, their literature appeals.

A GREAT FIELD FOR LABOR.

The following editorial appeared in the *Medical Sentinel*, Portland, Oregon, March, 1907:

All is not as serene as it should be in the State of Illinois. It is true that it is the home of the headquarters of the American Medical Association; here the energetic secretary-editor, Dr. Simmons, lives and breathes forth every week the gospel of unity and organization. But we have no less an authority than Dr. McCormack stating that, notwithstanding this beneficent influence, notwithstanding that "the laws are stronger and need to be perfected only in detail, the officials charged with their administration are most excellent men personally and professionally, and yet ground has been steadily lost until, probably to an extent not true of any other state in the Union, it is a veritable paradise of quackery in every form." Dr. McCormack says further:

"The secretary of the State Board of Health wrote me that he is sure that he has back of him the support of the rank and file of the profession, but I found constant evidence that he is mistaken on this point, and this opinion was confirmed by those to whom he referred me for information. The more or less open antagonism between the leaders of the state society and the board has begotten the spirit of apathy and hopelessness about improving and enforcing both the medical and health laws almost co-extensive with the state, and with such a state of affairs it ought not to be surprising that the united forces of quackery have an easy time of it."

All of which leads one to observe that what looks as though it might be a golden road to success in almost any line of endeavor often turns out to be a mud road to failure. Many of the measures taken by the organization have been wise beyond a doubt. The education of the public along the lines of prevention of disease is certainly a proper measure. The hardest thing to accomplish, apparently, is to convince the public that the medical profession, in its constant efforts to secure public legislation in every state, preventing fraud on the part of quacks, is actuated by motives of altruism, and not by the motives of selfishness. This is the hardest work that presents itself to-day to the profession. It often happens that state boards of health not composed entirely of medical men are semi-political in their character and they are liable to play to the galleries. Good laws are not enforced. Venal newspapers that are interested in securing advertising regardless of its being fraudulent or not, sympathize largely with the men who bring them dollars, if even those dollars are coined out of the sufferings and woes of a deluded patent-medicine-buying public.

It is not enough to enact laws. When this is done a step has been taken in the right direction, it is true, but there must be a public sentiment back of such laws or they can not be enforced. When one gazes at the rock-ribbed ignorance of the general public in such matters; when one realizes that nine grown people out of ten are willing to diagnose their own ailments, and prescribe for themselves from the shelves of the patent-medicine side of the drug store or corner grocery, one sees what an

enormous task there is before somebody to bring order out of chaos. There is no state in the Union where politics is played to a greater extent than Illinois, and to this fact is partly due, perhaps, the fact that Dr. McCormack finds discouragements there, and his letter regarding medical affairs in that state indicates something akin to blank despair on his part.

Scientific Editorial.

OPSONIC INDEX AND VACCINE TREATMENT OF INFECTIOUS DISEASES.

The vaccine treatment of infectious diseases under the guidance of the opsonic index has been assuming recently a great deal of importance. Hence every practitioner who wants to keep up with modern medical progress ought to become familiar with the principle underlying this new therapeutic method, so that he should be able to determine when it might be employed with advantage for the benefit of a patient. It should, however, be pointed out at once that this method imperatively requires such an intricate, painstaking technique that it can only be carried out properly by specially qualified laboratory workers. If the delicate, laborious details of the procedure are to be sacrificed to a rapid, empirical, routine method of vaccine injections, serious harm would surely come to and discredit a treatment which at this time appears to promise much.

The principle underlying the vaccine treatment under the guidance of the opsonic index may be briefly summarized as follows: Certain white blood corpuscles and other cells of the body (endothelia) are enabled to take up and destroy bacteria. This process is called phagocytosis. As appears now upon a well-established experimental basis a leucocyte can only take up and destroy a bacterium after the latter has been acted upon by certain bodies which are contained in the blood serum. These bodies, which probably attach themselves firmly to the bacteria, so change, weaken or damage, at all events so prepare them, that subsequent phagocytosis becomes possible. Wright has called the substance in the blood serum which prepares the bacteria for phagocytic destruction opsonins, from the Latin verb "*opsono*," "I prepare food for."

It can be shown experimentally that if we mix human leucocytes with human blood serum from a healthy individual, and a suspension of certain bacteria, for example, tubercle bacilli, the leucocytes within a given time take up a certain number of tubercle bacilli. It can further be shown that if we make a number of such tests under exactly the same conditions, with the serum from, say, twenty different healthy persons, approximately the same number of bacteria are taken up by phagocytosis. In other words, no tubercular healthy persons have approximately the same amount of opsonin in equal amounts of blood serum. The average value for a number of healthy non-tubercular persons is called the normal opsonic index and is generally designated as 1.0. If we now examine the

blood serum of a number of persons with known tubercular lesions of certain types, such as local bone and glandular tuberculosis, tubercular discharging sinuses, skin tuberculosis, laryngeal and ocular tuberculosis, etc., we generally find that it is much less potent in bringing about phagocytosis of tubercle bacilli. It is assumed that this is due to the fact that the blood serum of persons affected with local tuberculosis contains a lesser amount of opsonin than that of healthy individuals, and we then speak of a low opsonic index. So constantly has it been found that the opsonic index for tubercular phagocytosis is low in local tubercular infections that we can avail ourselves of the opsonic index as a diagnostic test for hidden, unrecognized local tuberculosis. Wright and others have shown that if we inject into an individual with local tuberculosis a very small amount of a vaccine prepared from the tubercle bacillus, for instance, Koch's new tuberculin, the opsonic index falls a little more and then rises, not only above the stage before the injection, but even above the index of a normal non-tubercular person. If now the blood serum is examined from day to day, it is ascertained that the index for a few days retains a relatively high degree, then it begins to fall. By a timely new injection a second and third rise, and so forth, may be brought about. Generally the condition of the patient markedly improves synchronously with a rise of the opsonic index, and, in fact, quite a number of local tubercular infections of long standing have been cured in a comparatively short time by this vaccine treatment under the guidance of the opsonic index.

It has also been shown that too small a dose may have no effect whatever, while too large a dose may bring about a rapid, steep fall of the opsonic index, not followed by a rise, and associated with an impoverishment of the condition of the patient. These observations show that the vaccine treatment can only be carried out correctly and advantageously under a constant supervision as to the opsonic index. Without the latter we are in the dark and we may do more harm than good.

To explain the good effect upon the course of the tubercular affection of properly dosed and timed vaccine injections is by no means such an easy matter as the interpretation of the test-tube experiment which furnishes the opsonic index. Whether the opsonins in the blood really lead to a more extensive phagocytosis in the tissues where the tubercular lesion is situated or not can not at this time be answered with any degree of certainty. But this is not so very important from the practical therapeutic standpoint. We definitely know, from what is now a considerable number of observations, that we improve, as a rule, certain local tubercular lesions and the general condition of the patient when we increase the opsonic index of his blood serum, and we are enabled to do this by a systematic course of vaccine injections.

The effect of such vaccine treatment in other but tubercular infections, such as staphylococcus, streptococcus, colon and other bacterial infections, though not yet as extensively studied as the former, has likewise been quite encouraging and the new vaccine therapy appears to have a very bright future. However, a warning should again be sounded; it is not yet

an every-day routine method, and it can confidently and properly be employed only when controlled daily by the opsonic index of the patient under treatment. We ought not to forget, in this connection, that the method of treating various forms of tuberculosis with vaccines is by no means a new one. We can see clearly now that the vacillating, uncertain results of former attempts at treatment with the different tuberculin preparations were largely due to the fact that we had no means to dose and time them according to a reliable objective sign. The latter we now possess in the opsonic index.

♦ Editorial Notes.

THE OLD DOCTOR'S POEM.

Dr. J. M. Matthews, of Reading, Pa., recently read at a banquet of the Berks Medical Society the following poem, which, both because of the age of the author and the intrinsic value of the poem, we think will be appreciated by our readers. Dr. Matthews was born in 1817 and graduated from the Jefferson Medical College in 1840. No doubt his desire to remain on earth is shared by a large number of his colleagues who, after all, feel that the old world is a pretty good place for a prolonged sojourn.

WHEN I WOULD DIE.

I'm very old, yet would not die,
 And have my bones in slumber lie,
 Until I know some things are done
 Whose doing is but just begun.
 I'd like to know our eastern sea
 Had kissed her western majesty
 At Panama and Colon's gate,
 And let our ships, both small and great,
 Pass through Dame Nature's narrow strait.
 Would then I die? Not yet, not yet!
 My heart on other themes is set.
 I'd like to see the airships fly
 Athwart the clear or cloudy sky,
 With or against all winds that blow,
 With or against all rains or snow;
 Sailing through the angry clouds,
 Bearing safely human crowds
 From place to place, from town to town,
 Now high aloft, now coming down,
 Now taking on, now letting go
 Its hurrying crowds bent to and fro.
 I tell you, Cap., I must be there,
 By two o'clock, I must be there,
 Some hours ahead of that slow poke
 That belches forth its cinder smoke—
 The iron horse whose murderous noise
 Kills off the sick, the well annoys.
 Some better is the trolley ride;
 Ten times as good the airships glide.
 And then you'd willing die? Not I:
 You soon shall see when I would die.

I want to see all warring cease.
 I want to see the reign of peace.
 I want to see "Thy kingdom come,"
 The thousand years millenium.
 Then heaven will be upon this earth
 And every creature have new birth.
 Then, sure you'd willing die? But why
 Would one in glory wish to die?
 O wondrous, wondrous are to be
 The achievements of futurity.

Correspondence.

DISCUSSION ON RECIPROCITY.

Editor Illinois Medical Journal:

I have read with a great deal of interest Dr. Egan's article on "Facts and Fallacies Concerning Interstate Reciprocity in Medical Licensure."

With the greater part of his contentions and statements I can thoroughly agree, but I must join issue with him in his statement and conclusions relative to the form of reciprocity adopted by the "American Confederation" and in force at the present time in some twenty of the leading states. This requirement, which provides for older and reputable practitioners, officially reads as follows:

PREREQUISITE CREDENTIALS.

As a prerequisite to reciprocal registration the applicant therefor shall file in the offices of the boards of the state of which he is a licentiate, and of the state where reciprocal registration is sought, such evidence of good moral and professional character as may be demanded by said boards, and such evidence, at the discretion of either board, may include proof of membership in a recognized medical society, and such membership may be considered in connection with the other evidences of character presented.

QUALIFICATION II.

A certificate of registration, or license issued by the proper board of any state, may be accepted as evidence of qualification for reciprocal registration in any other state, provided, the holder of such certificate has been engaged in the reputable practice of medicine in such state at least one year, and also provided that the holder thereof was, at the time of such registration, the legal possessor of a diploma issued by a medical college in *good standing* in the state in which reciprocal registration is sought, and that the date of such diploma was prior to the legal requirement of the examination test in such state.

Dr. Egan, objecting to this qualification, states: "The adoption of such a qualification would mean that the Illinois State Board of Health would be compelled to license, without an examination, the holder of a diploma from a seemingly reputable medical college who obtained a license in any other state previous to 1899, on the presentation of a diploma, when the license was his for the asking."

Now, is this statement of Dr. Egan's covering the objection honest and consistent with the exact reading of the qualification? He states Illinois would be compelled to license the holder of a diploma of a seemingly reputable medical college. The qualification, on the other hand, states that applicants may be accepted, provided the diploma, at the date of

registration, was in good standing, and provided, further, that the applicant had been engaged in reputable practice at least a year after registration. In other words, under this qualification, the Illinois board could demand at this time as great a measure of qualifications as it demanded at the date of graduation and license up to 1899, and the applicant should have been qualified to register in Illinois at the date of his diploma, and this diploma should have been in good standing in Illinois at the date of its issue. Under this qualification the Illinois board is empowered to conduct as thorough an investigation of the qualifications of the applicant as it thought proper, and if in its judgment the applicant was not thoroughly qualified for practice in the state, both from the academic and ethical standpoint, it could, under Qualification II, refuse to endorse the applicant. The only material thing Qualification II concedes in this form of reciprocity is the board examination, provided the applicant had graduated from a recognized college prior to the requirement of a board examination in the state to which he goes.

As the Illinois board recognizes and lists several colleges in Chicago not generally listed by other first-class states, his worry relative to "seemingly reputable medical colleges" and his fear that his board may have to recognize them does not appear on its face consistent.

Dr. Egan states that the only persons advocating this provision for the older practitioner are those physicians who reside without the state and who wish to come into the state through reciprocity in this form and those physicians, residents of Illinois, who wish to obtain an endorsement in other states under this provision. He also states that he has never heard a prominent practitioner of Illinois raise his voice in support of this qualification, although this form of reciprocity has been advocated constantly for five or more years past by the boards which have adopted it. I do not see what better proof of its practicability and virtue could be had than by such boards' endorsement, and I do not also see why he should expect physicians who have no interest in the matter to advocate such a provision, or why the advocacy of this provision by physicians affected by it should have no merit. Personally I know several very prominent practitioners in Illinois who do advocate this provision. Dr. J. B. Murphy appeared at a meeting of the American Confederation in Chicago in 1903 and advocated it very strongly; Dr. J. N. Dodson, dean of Rush Medical College, in a communication to *The Journal* of the American Medical Association last September, also strongly advocated it. Perhaps Dr. Egan does not consider these men sufficiently eminent to include them in his definition of "prominent practitioners of Illinois."

Dr. Egan states that he has attempted to obtain an expression of opinion relative to the merits of this qualification from the Illinois licentiates and that he has so far obtained almost absolutely no endorsement from such a source. It must be noted, however, that the method by which Dr. Egan attempts to obtain such an opinion is not either a fair or an effective one from the fact that he does not state his proposition either fairly or squarely. His proposition to his licentiates is as clearly defective and misleading as his statement of the qualifications above quoted and criti-

cised. Let us prepare a proper and fair statement covering Qualification No. II and his results would be entirely the opposite of the opinion already obtained under his former improper method of statement. This qualification has been under trial by some of the leading states during the past four or five years and has proven itself to be a perfectly safe provision as well as a practical solution of the proposition accepted unanimously by the profession that some proper method should be had by which the older reputable physicians should come within the provisions of medical reciprocity between states. In this latter class are included practically 90 per cent. of all teachers in medical colleges and also includes practically all of the eminent men at present practicing in the several states. Is it a sensible and practical proposition to endorse the qualifications of recent graduates without additional state board examinations and refuse to endorse the teachers of these recent graduates?

The method of the Illinois board in allowing a discount of a certain percentage of the 75 per cent. required in an examination has much to commend it, but it is not practical at this time from the fact that the several state laws do not provide for this method, and, while the Illinois board may adopt the policy of usurping the functions of the legislature, other boards can not be expected to adopt this method in connection with their administration of state medical laws. The Illinois medical acts provide that officers of the United States Army, Navy and Marine-Hospital Service should be exempt from the provisions of the act only while in the actual discharge of their official duties. The Illinois board enacts over the legislature that, at the discretion of the board, this exemption can be extended and the proviso covering the actual discharge of official duties cut out. Nothing in the Illinois act provides for reciprocity, but Dr. Egan states that his board reciprocates under its "general powers," whatever this may mean. The supreme courts of the several states, however, do not regard the "general power" of a board with anything like the favor Dr. Egan attaches to it, and an enjoining suit would very effectively put a stop to reciprocity as far as Illinois is concerned, and the fact that such suit has not been filed can be explained on the ground that executive acts of leniency are naturally seldom subject to such suits.

The Michigan board is always very glad, indeed, to accept a good suggestion from whatever source it comes, but it believes in executing the medical act upon a strictly legal basis and, if the law is defective, to obtain proper amendments through legislative action. At the present time in the Michigan legislature certain amendments to the present medical act are being asked for, including the following proviso:

An average percentage of at least 75 per cent. of correct answers on all of the subjects listed under this section, and of not less than 50 per cent. of each subject shall be required of every applicant; Provided, That in the case of a qualified applicant who has been in reputable practice at least five years, at the discretion of the board, this requirement of minimum percentage may be modified by the board to meet the exigency of the case.

Also another provision covering Dr. Godfrey's (secretary of the New Jersey State Board of Medical Examiners) suggestion of three or four

years ago, that a state should be empowered to accept and endorse the license of another state without the requirement of a reciprocal endorsement:

The applicant may at the discretion of the board be registered and given a certificate of registration if he shall present satisfactory proof of the possession of a certificate of registration or license which has been issued to said applicant within the states, territories, districts or provinces of the United States where the requirement for said applicant's registration, at the date of his license, shall be deemed by the Board of Registration in Medicine to be equivalent to those of this act; Provided, That said applicant shall otherwise conform to the restrictions and regulations adopted and in force by the board relative to the recognition of, or the endorsement of certificates between states.

This suggested provision allows a board to require the reciprocal exchange of endorsement between states, but it is not a compulsory requirement, and in the event of a similar case to the case quoted by Dr. Dodson, of a professor in a Chicago medical college being unable to accept a chair in a state not in reciprocity with Illinois, Michigan can and would accept him under Qualification II, notwithstanding the Illinois board's attitude toward this form of reciprocity. All medical acts have in view directly benefits to the people and they should be administered to this end.

Finally, Dr. Egan imagines that every one, including medical boards and board members, who advocate the form of medical reciprocity represented by Qualification II, does so from some sinister motive, and that an attempt is being made, without qualifications, to break into his state. He should get over this feeling and adopt a broader and more liberal view of those who are forced to disagree with him.

B. D. HARRISON.

Detroit, Mich., March 22, 1907.

DR. ENGLISH DISCOURSES ON OUR ADVERTISEMENTS.

GILLESPIE, ILL., March 10, 1907.

GEO. N. KREIDER, M.D., *Editor*:

Dear Doctor:—My ILLINOIS MEDICAL JOURNAL has just been received, and your editorial, "Our Advertising Pages," read, in which you invite doctors who so desire to air their opinions about the present contracts.

There are three or more in yet that, in my opinion, when the physicians have advertised them as thoroughly as they did A. K., will be sold and advertised direct to the laity.

I will begin at the first and name them as they appear and name those I am especially hostile to: Vitogen, put out by Harvey; their own detail men do not make any pretension to instruct the doctors of its contents. Antiphlogistine is fast becoming a household remedy. More expensive and less efficient than linseed meal, Exodin, Tonols, Urotropin, the very names smell to heaven, and doctors with whom I am associated know no more of their contents than they do of Peruna, and not so much. Cystogen-lithia is another secret remedy that can be made only by one firm. Altogether there is enough to nauseate a doctor who wants to practice medicine scientifically and legitimately. I would gladly double my sub-

scription to THE JOURNAL if these—what I think—abominable advertisements were refused.

Mr. Bok's "The Physician and the Nostrum," read before the Philadelphia County Medical Society and published in *The Journal A. M. A.*, most thoroughly impressed me as sound doctrine and most excellent advice for so many doctors to take.

Respectfully,

J. N. ENGLISH, M.D.

COUNTY AND DISTRICT SOCIETIES

COOK COUNTY.

CHICAGO MEDICAL SOCIETY.

Meeting of Jan. 23, 1907.

Regular meeting was held Jan. 23, 1907, with the President, Dr. George W. Webster in the chair. In the absence of Dr. H. R. Gaylord of the Cancer Laboratory of Buffalo, New York, who was to have read a paper (by invitation) on "The Significance of Extracellular Organisms in Mouse Carcinoma," President Webster read a paper on "Medical Treatment of Hemorrhage." Dr. Henry Gradle read a paper entitled, "A Graduated Method of Removing the Inferior Turbinal of the Nose."

THE MEDICAL TREATMENT OF HEMORRHAGE.

GEORGE W. WEBSTER, M.D.

CHICAGO.

(Abstract.)

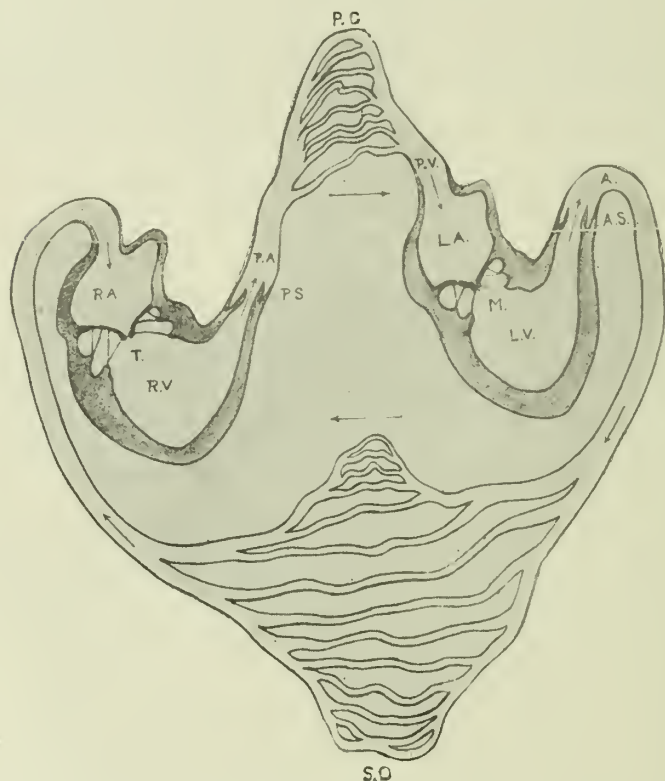
After referring to the conflicting opinions and diversity of practice at present indulged in by the members of the profession, the author briefly reviewed the physiology of the circulation of the blood, its coagulability, and the action of certain drugs upon circulation and coagulation. Before considering the treatment of hemoptysis, the author pointed out that a sudden lowering of the arterial pressure raises the venous pressure, that the veins of the splanchnic area are capacious and capable of holding possibly all the blood of the body; and that a rabbit whose sympathetic is paralyzed will die if suspended by the ears, as it "bleeds into its own belly."

The viscosity of the blood, according to Dr. John H. Watson, is about five times that of distilled water, and he says that it may sometimes in disease be ten times that of water. This increased viscosity of the blood favors its coagulation and increases peripheral resistance, thus tending to cause a rise in blood pressure and increased work for the heart. Lessening the viscosity tends to lower the blood pressure and to diminish the work of the heart. The viscosity of the blood is increased by excess of CO_2 in the blood, alcohol (Burton-Opitz), nitrogenous foods (Burton-Opitz, quoted by Watson), salts of calcium, strontium, magnesium (A. E. Wright), by anything which increases the blood corpuscles, by hydrastis, and by cold water baths, the hot-air bath, adrenalin, gelatin, alcohol, chloroform. The viscosity is lessened by a febrile temperature (Graham Brown, John H. Watson, Deming), citric acid and salts of potassium, sodium and ammonium (A. E. Wright), thyroid extract, iodids and the hot-water bath. The hot-water bath also raises the pulse pressure, i. e., the difference between the systolic and diastolic pressure.

The author presented a scheme which shows the agencies which affect the peripheral circulation. Blood pressure in the systemic circulation may be raised by stimulating the vasoconstrictors and by those substances which increase the viscosity of the blood. It may be lowered by acting upon the vasodilators and by diminishing the viscosity of the blood. Bleeding from the lungs occurs chiefly in two diseases—mitral obstruction and pulmonary tuberculosis—the latter disease furnishing 84 per cent. of all cases. As to the treatment of the former condition, clinicians are agreed that in certain diseases, especially the one under consideration and also in mitral regurgitation, the pulmonary blood pressure does rise and to such a height as to cause pulmonary hemorrhage, due

to engorgement in the pulmonary circulation, and that at this time the blood pressure in the systemic circulation is abnormally low. A glance at the following diagram shows how this is brought about.

The diagram shows the two sides of the heart separated to show the work of each. Either obstruction, or regurgitation at M. results in undue pressure in the left auricle; L A a rise in the pressure in the pulmonary circulation, this pressure continuing as long as the right ventricle (R V) remains normally active and there is no dilatation of the right auriculo-ventricular orifice, with consequent safety-valve action of the tricuspid valve. Because of the fact that the left ventricle (L V) receives less than the normal amount of blood with each auricular systole, the blood pressure in the systemic circulation falls, venous pressure rises in accordance with the law already quoted, the right heart becomes over-



filled and the pressure in the pulmonary circulation rises to the danger point. This also explains the fact that in obstruction or leakage at the mitral valve in the left side of the heart the hypertrophy occurs, primarily not in the left, but in the right ventricle. It must be apparent that the rational treatment consists in an attempt to get the blood out of the venous into the arterial side of the circulation where it belongs. The best remedies for this condition are absolute rest, mental and physical, morphin and digitalis.

What are the conditions in hemorrhage from pulmonary tuberculosis? The viscosity of the blood is below normal; the heart is increased in frequency; its efficiency impaired and the blood pressure low. The indications are absolute rest, in order to lessen the frequency and violence of the respiratory movements, increase the viscosity of the blood, and, if possible, lower the blood pressure in the pulmonary circulation.

The first two of these indications can be effectually met by keeping the patient in bed, lying on the affected side, the administration of morphin, $\frac{1}{4}$ gr. hypodermically, the giving of ten drops of chloroform in water, and later the viscosity of the blood may be increased by the administration of calcium and hydrastis and a meat diet. If these means do not avail, then recourse may be had to the hypodermic injection of 3 ounces of a 2 per cent. solution of fractionally sterilized gelatin, or the use of normal salt solution given in the same way. The author does not know how chloroform acts, except that it is a styptic and increases the viscosity of the blood, but he has had excellent results with it. In regard to the administration of other drugs, there is the greatest diversity of opinion. Thus Hare of London employs amyl nitrite, basing its use on the theory already described, that it causes dilatation of the systemic blood vessels and constriction of the pulmonary circulation. The author pointed out why he could not subscribe to this theory. In the interval between the attacks he employs syrup of Dover's powder instead of morphin.

The examination of the chest should be interdicted entirely, but if done at all, at the time of the hemorrhage, should be limited to auscultation, and this should be done in a manner not to disturb the patient. The semi-sitting posture should be assumed by the patient, as the horizontal lowers arterial pressure and leads to pulmonary engorgement. Thus these patients cough more and are breathless on going to bed, and patients with pulmonary engorgement due to cardiac inadequacy can not lie down. Strapping of the affected side may be resorted to after the first hemorrhage ceases, but the patient should not be disturbed enough to apply it while any bleeding is going on. Until the physiology of the circulation is written, much of the therapy of hemoptysis must remain empirical.

In cerebral apoplexy the conditions are usually a very high blood pressure together with degenerated vessels, and often an interstitial nephritis. In all cases the pressure is higher than the retaining power of the vessel walls. The immediate indication is to lower blood pressure so as to prevent further escape of blood. This is best accomplished by the administration of nitroglycerin and amyl nitrite, pushed to the physiological limit, always bearing in mind the evanescent character of their effects, lasting only about ten minutes. As soon as the pressure is brought down by these quickly acting drugs, and the hemorrhage has ceased, the lowered pressure may be maintained by the giving of strong purgatives like croton oil, the administration of those substances which diminish the viscosity of the blood, such as iodids, citric acid, the warm bath, aconite and thyroid extract and chloral hydrate. Chloral is especially valuable, as it lowers blood pressure, relaxes vascular spasm and causes sleep. For the same reason the diet should contain a minimum of the nitrogenous foods and should contain very little chlorid of sodium. The following are contraindicated: Calcium, ergot, adrenalin chlorid, digitalis, hydrastis, cold baths, iron, gallic acid.

In hemorrhage of typhoid fever the indications are to secure physical and mental rest and to arrest intestinal peristalsis and to limit the amount of mechanical irritation at the bleeding point, and to increase the viscosity of the blood.

In hematemesis the indications are rest, local styptics, morphin, adrenalin chlorid hypodermically and by mouth, gelatin, ice by mouth and locally, hydrastis, chloroform water.

In hemophilia he has obtained the best results from the long-continued administration of calcium chlorid. In one case he continued its administration over a period of nearly three years. During this time the hemorrhage which had previously been frequent and severe, especially from the kidneys, ceased entirely, robust health replaced a condition of chronic invalidism, the arthritic phenomena were vastly improved, and he was apparently cured. He lost track of the patient after three years.

As to epistaxis, when a patient of over 30 has recurring attacks of nosebleed without apparent cause, always examine the blood pressure and the urine, and

he believes one will find the cause in the majority of cases. The nosebleed does not call for treatment, but the condition on which it depends does call for prompt interference.

DISCUSSION ON DR. GRADLE'S PAPER.

Dr. Charles M. Robertson:—In operating upon the turbinated bodies the first idea is to ventilate the nostril by taking away enough tissue so that the turbinate, after it heals, shall resemble the normal turbinate. In nearly all cases where we have a deflected septum the turbinate on the concave side compensates for the deflection by being larger than it should naturally be. I have been doing graduated turbinectomies for a number of years, and I find that in nearly all cases the posterior end of the inferior turbinate is the part that undergoes hypertrophy first. We have very many cases in which the front end is nearly normal, whereas on the posterior aspect of the turbinal we have hypertrophy, which is really a myxomatous degeneration. This sometimes sticks out in the post-nasal space so as to resemble a cauliflower hypertrophy. This shield operation for this kind of hypertrophy would not do much good. Sometimes, with only four centimeters, which would be almost two inches, he cannot get at the hypertrophy to remove it, and consequently he has to use a snare. There are biting forceps which can be employed in doing this operation. I use the Myles instrument, which is really nothing more than an alligator biting forceps. With it you can follow in and bite off pieces of tissue, and see what you are doing. You can go through to the nasopharynx and bite off as small or large a portion of tissue as you wish. If you wish to bite off a small amount of the anterior end of the turbinal you can do so. You can do the same with the posterior end. There are cases in which the lower border of the hypertrophy is level; but many of them are hypertrophies which extend to the external wall; some curl up, so that it is impossible to put a shield in there and get the free edge of the turbinal. I have seen turbinates half an inch in thickness; others that were one one-sixteenth of an inch in thickness. These turbinates extend to the floor of the nostril in front, nearly all of them to the floor of the nostril behind.

Meeting of Jan. 30, 1907.

Regular meeting was held Jan. 30, 1907, with the president, Dr. George W. Webster, in the chair. Dr. Carl Beck reported a case of leontiasis ossea, and exhibited skiagraphs. The paper was discussed by Drs. Allen B. Kanavel, Peter Bassoe, and the discussion closed by Dr. Beck. Dr. Arthur R. Elliott read a paper entitled "Chronic Lymphatic Leukemia," and exhibited a patient with that disease. The paper was discussed by Dr. James B. Herrick. Dr. D'Orsay Hecht reported a case of "Basedow's Disease after Partial Thyroidectomy," and exhibited the patient. The case was discussed by Drs. Emil Ries, L. Harrison Mettler, and the discussion closed by Dr. Hecht. Dr. George F. Suker reported a case of tumor of the brain and showed the patient.

DISCUSSION ON DR. BECK'S PAPER.

Dr. Allen B. Kanavel:—This subject is an extremely interesting one, and was brought to my attention a number of months ago by a case which occurred in my practice. At that time I looked up the question as to the etiology in relation to other diseases, and this case brings out some phases particularly noted in that investigation. The so-called leontiasis ossea, as reported in the literature, seemed to be divided into four distinct classes. In the first place, we can have a distinct type of the disease in which there is an apparent hypertrophy of a single bone. Secondly, we can have a division in which there is hypertrophy of half of the face. Thirdly, we can have a type of the disease in which there is a symmetrical hypertrophy of certain bones of the face. Fourthly, we can have that type of disease in which there is hypertrophy of the entire number of bones of the face and skull.

There are certain diseases which require differentiation from the local type of disease in which a single bone is involved. Horsley reported a case as leontiasis ossea, which, to all intents and purposes, was nothing more nor less than osteoma

occurring on the frontal bone. Pean reported a case in which a large tooth was removed from the tumor mass in the superior maxilla. This was probably an odontoma. A third isolated type of hypertrophy was reported by Le Dentu, in which he describes the lesion as somewhat similar to sarcoma, and maintains that the so-called cases of leontiasis ossea are similar to sarcoma. His differentiation is not clear. In support of his arguments he mentions histological examinations of specimens which he removed at that time. He says the tissues show a number of polyhedral cells, and in various areas giant cells can be differentiated. There are five or six cases in which histological examinations have been made, but which did not seem to show the same change. Le Dentu is the only one who described such a change in the bones. On examining the record which he made, one is prone to believe the first case which he described, which went on to rapid death, was an ordinary sarcoma. In the second case there is a possibility that the cells which he describes were nothing more than the ordinary cells which occur in bone tissue. The other types of this disease, in which there is hemihypertrophy of the face, and in which there is generalized enlargement of the face, are probably the most interesting of all. Hemi-hypertrophy of the bones of the face has been described in association with hypertrophy of the soft parts of the face, being associated with von Recklinghausen's disease. There are six or seven cases reported which cannot be differentiated from this disease. For instance, Lanz reports a case in which he mentions the appearance of enlargement of half of the face associated with large fibromatous masses, and described this case as one of leontiasis ossea, with fibroma molluscum. There are five or six other cases reported which present the same characteristics, but with less hypertrophy of the bones. I mention this to show the relation of the increase in fibromatous tissue and development of bone, suggesting an etiological relation between the two diseases.

Concerning generalized enlargements of the bones, several cases have been reported as leontiasis ossea which cannot be differentiated from acromegaly. In fact three cases have been reported which should be eliminated from the report because of the fact that they show enlargements of other bones and are in every respect similar to acromegaly. So close is the relationship and so hard is the differentiation between the diseases that Ziegler has maintained that leontiasis is a partial acromegaly. One of the earliest cases reported was associated with enlargement of the fistula and enlargement of the hyoid bone. This would seem to be in all probability a case of acromegaly. In relation to this fact investigation as to the changes which have occurred in the pituitary body and pituitary fossa of the skull in various cases is of interest. But only two cases of leontiasis ossea, which have been observed during life and have come to postmortem, have been studied in relation to this particular fact. The case of Sattler, which was a beautiful demonstration of this disease, was observed over a course of fifteen years, and went through all the progressive stages of leontiasis ossea. At the postmortem examination it was found that the pituitary body was enlarged. No microscopic examination was made, however, at that time. In the case of Stack, there was no change apparent in the pituitary body, but the skull showed contraction in the pituitary fossa. So at the present time, with the data we have, we are unable to make an accurate statement as to the relation of acromegaly to leontiasis ossea, and hemilateral hypertrophy to von Recklinghausen's disease.

In a case reported by Allen Starr, there was hypertrophy of all bones of the head and skull, associated with large masses of fibromatous tissue upon the face; these masses hung down, and were associated with pigmented spots over the body. This was a case in which the changes in the bones were so extensive that it was considered a case of leontiasis ossea. This case presented by Dr. Beck, showing changes in the bones of the hands and of other portions of the body, emphasizes the interesting points which I have mentioned.

Dr. Peter Bassoe:—The case reported by Dr. Beck has interested me very much, because I have spent a great deal of time on this subject. I held an autopsy on a case in which there was leontiasis ossea, also a great many other changes. I had

occasion to look through the whole literature, and collected at that time forty-one cases, after throwing out some cases that plainly did not belong to that group. The case which I reported at that time in the *Journal of Nervous and Mental Disease*, September and October, 1903, was a remarkable one. The patient was a giant, eight feet and two inches in height. At the age of 9 years he began to develop enlargement of the left side of the face, and especially of the frontal bone on the left side. At the age of 18 he was reported by Dana as a case of gigantism, with unilateral hypertrophy of the skull. Later on the hyperostosis of the skull increased, so that he developed symptoms of compression of all the cranial nerves. In this case there was also enlargement of the maxillary bone, which is so frequently associated with hyperostosis of the skull. The enlargement involved the skull first, and the jaw bones became enlarged secondarily.

When my case came to autopsy it had become extremely complicated. There was an enormous hyperostosis of the frontal bone. It was three and three-quarter inches thick, thicker than any of the skulls in the European museums referred to by Dr. Beck. There was an enormous enlargement of the superior maxillary bone. The bone was osteoporotic. The right half of the frontal bone and part of the maxillary bones were simply hyperostotic, showing histologically only loose bone. On the left side there was an osteosarcoma which had filled up the anterior and middle fosse of the skull, lifted up the brain, and given rise to many pressure phenomena. The tumor had not invaded the hypophysis. There was no reason to believe that this man at the age of 28 could have osteosarcoma since the age of 9 years. He undoubtedly primarily had leontiasis ossea, or hyperostosis of the cranium; the sarcoma had developed later. It was a very malignant one as it was very rich in mitotic figures. Clinically it had been noted that some months or a year or so before death there was a sudden enlargement of the tumor, with extension into the subcutaneous tissue. It is true that many cases reported have been undoubtedly sarcoma from the start, and should not be called leontiasis ossea; yet in a few cases in the literature there is a similar history, as in my case, with enlargement of one side of the head, or a symmetrical enlargement of the skull since childhood. Within a year or so before death there is then a sudden growth of the tumor and sarcoma is found postmortem. It seems to me we must then assume that sarcoma has developed secondarily in the hyperostotic bone or its periosteum. In most cases there has been the association of hyperostosis of the skull with hyperostosis of the facial bones.

It would be interesting to know if there were any symptoms of cranial hyperostosis in this case. I would like to ask Dr. Beck as to the thickness of the skull. There are often symptoms, such as drowsiness from compression of the brain, or nerve palsies from narrowing of the foramina in the skull. In some cases, like in this one of Dr. Beck's, we have changes in the long bones. It is questionable, however, whether in such cases the leontiasis ossea is not merely a feature of a general bone disease. I am sure some of the cases that have been reported really belong to *ostitis deformans* or *osteomalacia*. It is a curious fact that leontiasis sometimes is associated with other diseases which also are rare, such as gigantism, acromegaly, and syringomyelia.

Dr. Beck (closing the discussion):—I have not made an extensive report of this case because I have not made microscopic and other examinations, which I will add before I publish the case. It is my impression, however, from the skiagraphs and from the symptoms that the frontal bones and the cranium in this case are much thickened, especially in some places on the forehead. I think that it is a case of leontiasis ossea alone, because there is a mixture of some other pathologic conditions. Furthermore, the condition of the fingers and the condition of the face do not correspond exactly with leontiasis, and perhaps a microscopic examination of the parts removed from the jaw, etc., will show a difference in structure.

DISCUSSION ON DR. ELLIOTT'S PAPER.

Dr. James B. Herrick:—All of these cases of chronic lymphatic leukemia are of great interest. This is the first case of lymphatic leukemia I have seen in a colored

person. As Dr. Elliott stated, the blood picture is the only means of differentiation between this form of disease and certain other similar diseases, such as pseudo-leukemia. Perhaps we are trying to do too much in attempting to differentiate between pseudo-leukemia or so-called Hodgkin's disease, and chronic lymphatic leukemia. The clinical picture in most cases of the two diseases is absolutely identical. The symptomatology and physical examination are exactly the same. Many pathologists also contend that anatomically there can be no histologic differentiation made between these two diseases. It is a question, therefore, whether the difference in the blood findings shows an essential difference in the nature of the two disease processes; the variation in the blood may, perhaps, be secondary or accidental in character. Some color is lent to this notion by the fact brought out by Ehrlich several years ago that in most cases of pseudo-leukemia, there is a tendency in the blood toward lymphocytosis. There may be no increase at all in the total number of leucocytes, but the proportion of lymphocytes is increased. In other words there is the qualitative change in the blood of chronic lymphatic leukemia, but not the quantitative. Further color is lent to this notion of the close relationship, if not identity, between the two diseases by the fact that a transformation in the picture of the blood has been seen by competent observers. Cases have been under observation for months as typical instances of pseudo-leukemia, when the blood suddenly is flooded with lymphocytes, and the picture is that of chronic lymphatic leukemia.

A chronic lymphatic leukemia, as a rule, presents the picture of a lymphocythemia, as shown in the beautiful specimens Dr. Elliott has under the microscope. There is an increase in the small cells, the so-called lymphocytes. Fraenkel, some years ago, reported a series of cases of acute lymphatic leukemia, and was inclined to believe the rule always held true that in the chronic cases we had the small-cell type, but in the acute cases there was an increase in the large mononuclear non-granular leucocytes. This is now known not to be true. I have seen cases of the chronic type in which large cells predominated; I have likewise seen cases of the acute type in which the small cells predominated, and there are cases of a mixed type. Sternberg, who has recently reviewed the subject quite extensively, found, on analyzing several scores of cases, that there was a good percentage in which the rule was violated, so that we can not now say that every case of chronic lymphatic leukemia is of the small-cell type, nor that every case of acute lymphatic leukemia is of the large-cell type.

Another point of interest, too, might be mentioned here. Sternberg believes that the two forms of leukemia, the small-cell and large-cell types (I am speaking now of lymphatic leukemia), are in their essence different; that we have in the small-cell type practically a hyperplasia of the lymphatic structures of the body—the lymph glands, spleen, bone marrow, and other lymphatic structures; that this form of disease is not, as some have contended, in the nature of a neoplasm. In the large-cell type he believes we are dealing with an increase of cells in the blood which are really abnormal, pathological cells, not the large mononuclear cell found in small numbers in normal blood, but a pathological cell that never in conditions of health is present in the blood. A second reason is that the lymphatic enlargements in general present atypical groupings of the cells. And, again, in this large-cell type there is a tendency for the cells to invade surrounding structures by the penetration of the capsule. In this large-cell type he finds, then, many of the characteristics of a neoplasm, and he groups the large-cell type of the so-called lymphatic leukemia under the head of leuko-sarcomatosis.

Yet we have to make a clinical distinction between the acute and chronic types, and ought, for the present at least, to be specific as to whether we have the large or small cell type to deal with. The difference clinically between acute and chronic lymphatic leukemia is remarkably striking, and one who has seen a few cases of the acute lymphatic form must see the resemblance between that and an acute infection, the case running its course in a few days or a few weeks, generally starting in with an angina, with a grayish exudate upon the tonsils, followed by rapid enlargement of the neighboring glands, prompt enlargement of

other lymphatic structures of the body, elevation of temperature often to 103° to 104°, a dry parched tongue, a hemorrhagic tendency, very marked and wonderfully rapid progressive anemia—a picture very strikingly like that of an acute infection.

I think Dr. Elliott is justified in urging the use of the *x*-ray in these chronic cases of lymphatic leukemia. The reports that have been made have been most favorable in cases of chronic lymphatic leukemia, and I recall one case I have seen many times at the Presbyterian Hospital. I do not remember whose patient it was; it was not mine. But this patient I examined soon after he began coming to the hospital with glands larger than those in Dr. Elliott's patient and with a perfectly typical picture of the disease. I saw him several months later, after *x*-ray treatment, when it was almost impossible to feel the glands, and I was told by those who were keeping track of the case that the blood picture was practically normal. Still in these cases of apparent recovery we usually find a little hint of lymphocytosis, still a little increase in the proportion of lymphocytes, and we should feel, as Dr. Elliott has said, that the case is perhaps not permanently cured.

DISCUSSION ON DR. HECHT'S CASE.

Dr. Emil Ries:—I would like to ask Dr. Hecht whether this patient has been receiving medical treatment since the operation?

Dr. Hecht:—Absolutely none.

Dr. Ries:—That is important, because what you see now in this patient can not be confounded with any result of medical treatment. If this patient has received no medical treatment since the operation, and has gained twenty pounds and improved in her general condition, the improvement can not be ascribed to the medical treatment. If she had received medical treatment subsequent to the operation, I have no doubt that the improvement might, by some men, be attributed to the medical treatment and not to the operation. I might also say that I regret that this patient was operated on by myself rather than by somebody else, because if somebody else had done the operation I should have complimented him on his success, but as I did the operation myself modesty forbids this.

If you will recall the description given of this case prior to operation, you have received a desolate picture of the patient's condition. This patient had received the benefit of the most approved and scientific medical treatment until she reached the very last and worst stage of the disease. Now, if a surgeon has any regard for his statistics, he would refuse to operate on such a case. I have no regard for my statistics, but every regard for my patient, and, therefore, I have operated on this woman. The case was a very hard one to operate on. The supply of vessels to this large vascular goiter was enormous. The patient's heart action was so rapid that I did not venture to give a general anesthetic except scopolamin. The condition of the patient three or four days subsequent to operation was not as surprising to me as it might be to an internist who has not seen a series of these cases after operation, because we usually see rapid heart action and high temperature after these operations. But the patient gets over that after a few days. The resulting improvement in the patient's general condition, as well as the improvement in the condition of the eyes, is very pleasant to one who has gone through such arduous and trying times as this patient has.

I have treated cases of Graves' disease with thyroidectin and other improved methods. I reported a case before this Society not long ago that was treated with thyroidectin with great benefit, the patient having gained forty pounds in the course of six months. But that patient committed suicide eight months after the treatment was begun. As soon as she quit taking thyroidectin she grew worse again, and ultimately, while in a depressed mental state, committed suicide. It would be very desirable to see these cases ten years after operation, and I hope that by that time we may have accumulated a few more cases. Finally, I wish to emphasize the point that we ought to get these cases for operation before they get into such a bad condition as this patient was.

Dr. L. Harrison Mettler:—Dr. Ries has been modest in congratulating himself on the excellent result obtained thus far by operation on this patient. I take much pleasure in congratulating both him and Dr. Hecht on the improvement in this case. As has been said, however, we can form no opinion of what is to follow, although we hope the improvement may be permanent. I rise to emphasize merely one point, to which Dr. Ries alluded in his last sentence when he said that these cases ought to be sent to the surgeon earlier. Perhaps this patient would have been better off if she had been sent to the surgeon earlier. However, judging from the reports in the literature, many of these patients get well without operation. My personal observation confirms this. In view of this fact, we are not yet in a position to regard exophthalmic goiter as a surgical disease, as some seem inclined to do. I wish to emphasize this point. There is no question in my mind, judging from the good results so often reported to have been obtained, that great improvement occurs in mild cases, and not infrequently in severe cases, from medical, hygienic, and other treatment apart from surgery. We should be rather slow to submit these cases to operation and should rather follow the course somewhat that this case has gone through. In this patient, however, medical treatment seems to have been of very little avail, in that very little or no improvement whatever was noted from it. This does not prove, however, that exophthalmic goiter is purely a surgical disease. I believe that we ought to submit these cases to operation only after we have given them what we consider a sufficient and satisfactory trial of medical and general hygienic treatment, because we do get good results from such treatment in a large number of cases, even in severe ones, and surgeons do not cure all of the cases they operate upon, but we have quite a number of fatalities to account for from operative interference.

Dr. Hecht (closing the discussion):—I tried my level best to present this case in as absolutely neutral fashion as I could. I did not care to side with myself or with anybody else in the belief that the result in this case is better than it actually is, and it is possible I may have underestimated the great improvement that has taken place rather than put it in its fairest light. I should say, however, in summing up, considering that more than ten weeks have elapsed since the operation was performed, this should be called an admirable result, for the reason that some of the subjective and objective signs have been put in abeyance by the operative procedure.

As to whether exophthalmic goiter is a surgical or medical disease, I believe it is not necessarily a matter of argument, as no one has claimed that it is entirely one or the other. But the argument of Dr. Mettler would somewhat point toward the view that surgical procedure should be a *dernier ressort* in these cases. I would oppose such a view, for the reason that we must, of necessity, respect statistics in this matter, and they tell us that the best results are obtained by operating on the cases early, and if a proper technic, other things being equal, is applied, then we have no reason to expect fatalities in the majority of cases. In fact, statistics do not show many fatalities from operations done by experienced and skilled operators. The question is not whether Basedow's disease is a surgical or medical one, but it is largely a question of appropriate treatment at the appropriate time, whether it be surgical or medical.

Regular Meeting, Feb. 6, 1907.

A regular meeting was held Feb. 6, 1907, with the President, Dr. George W. Webster, in the chair. Dr. Edwin Ryerson read a paper entitled "Gonococcal Arthritis," which was discussed by Drs. Joseph Miller, William Fuller, George W. Webster, Edward H. Ochsner, Victor J. Baccus, and the discussion closed by the essayist. Dr. I. A. Abt read a paper entitled "Infections of the Urinary Tract in Infancy." Dr. Edward H. Ochsner read a paper on "Osteoma Removed from the Vertebral Canal." In connection with the reading of the paper he presented the patient and the tumor which he removed. The paper was discussed by Dr. Thor. Rothstein.

DISCUSSION ON DR. RYERSON'S PAPER.

Dr. Joseph L. Miller:—I am glad to have had the opportunity of hearing Dr. Ryerson's paper on the surgical treatment of these acute cases of arthritis. We have all recognized for a number of years that the statistical results from surgical treatment have been superior to those obtained by medical treatment, when we consider that from 25 to 30 per cent. only of those cases that are treated medically have complete return of motion in the joint, while in something like 10 per cent. there is complete ankylosis and in the remaining cases more or less ankylosis. The condition in the joint is slightly different from ordinary acute inflammatory rheumatism, the large amount of periarticular inflammation present increasing greatly the tendency to ankylosis. We have a number of cases in which not merely the gonococcus is found, but the streptococcus, staphylococcus or the staphylococcus and streptococcus without the gonococcus. We have here a distinctly surgical condition. While there are infections produced by the gonococcus alone, still in many of these cases we have a mixed infection, and in such instances treatment by a specific serum or along the line of the opsonins does not hold forth good prospects of excellent results.

Dr. William Fuller:—Before referring to one or two of the many points of value in the paper presented by Dr. Ryerson I desire to say a word or two about gonorrheal infection as commonly seen by the general practitioner. Gonorrhea may develop, be treated and symptomatically cured as a local condition only. Again, a urethral gonorrhea may have associated with it local complications which will require an accurate differential diagnosis if the treatment is to result in permanent or even temporary good. For instance, if we have a local complication, such as epididymitis, orchitis, prostatitis, or a vesiculitis, it is absolutely necessary to make a differential diagnosis in these complications if we would expect anything beneficial from treatment.

When we come to consider the systemic phenomena of gonorrhea we must remember the fact that there are very few, if any, structures in the human body exempt from gonorrheal inflammation; and isolated cases of such inflammation involving a single muscle, a nerve, a tendon sheath and a vein have been reported. And this is precisely what is sometimes found on close study in the so-called arthritic joints. We may not have, even in the severest cases, the slightest effusion in the joint capsule, because there is no synovitis present; the inflammation or the infection involves the periarticular tissues, which may be in the muscles or tendons or other soft structures. If this be true, it seems to me that we gain nothing by aspirating such joints for diagnostic purposes, nor do we gain anything by injecting them for therapeutic purposes. It is very important to determine with exactness the location and particular structure implicated in the systemic complications of gonorrhea, and to treat them accordingly. If there is a synovitis or an effusion into the joint, then aspiration of the joint and the injection of it with something similar to what Dr. Ryerson has recommended is excellent treatment; but if the joint is not involved, a fact fairly easy to determine, it should be neither aspirated nor injected.

Personally nothing has served me as well in the treatment of gonorrheal joints as firm fixation of the joint, and the use of that appliance which will allow the application of very hot fomentations, and at the same time permit of a constant increase in the pressure around the joint; this latter point seems of great importance to me, and one which has never been neglected. Of probably just as much value as any one item in the treatment is the position of the extremity, which should always be that of extreme elevation, which will provide for perfect circulation in the inflamed part and is a source of great comfort to the patient.

With reference to the time a limb or joint should be fixed, Dr. Ryerson said, if I understood him correctly, that, if too prolonged, ankylosis would surely follow. Whether this always is true I can not say, but it should be remembered that passive motion in any joint where there is an acute gonorrheal inflammation present is always contraindicated, because of the fact that we immobilize the joint for its beneficial effect on this, as in all other forms of acute inflammation. Passive motion should not be attempted again, because this is one of the most

excruciatingly painful conditions met with; it is the one thing which should never be used till the acute condition has subsided, whether that is one week, one month, or longer.

Dr. George W. Webster:—Ten months ago I treated a patient who had acute gonorrheal urethritis and also gonorrheal arthritis, with Torrey's serum. This man had been under my care and in bed for three weeks. He suffered so intensely that he became quite emaciated. His temperature ranged, as it frequently does in these cases, from 102° to 103° , and his general condition was such that the consultant gave an unfavorable prognosis so far as the man's life was concerned. At that time I had given but one dose of Torrey's serum. The man received altogether six doses of this serum, and these doses were given on consecutive days. The serum, as you probably know, is concentrated, so that a small amount is given. His temperature became normal on the second day; the inflammation in the joint was markedly less; pain had almost entirely disappeared; at the end of five days the temperature was normal; he was perfectly comfortable; the effusion in the joint had almost wholly disappeared, and he was sitting up. On the eighth day from the beginning of this treatment, because of some business that it was necessary for him to attend to, he was able to go downtown on a street car. The results were beyond anything I had ever seen; it more closely resembled the rapid disappearance of diphtheritic membrane under antitoxin than any therapy I have ever employed. This is the only case in which I have employed this serum, but in it the results were simply marvelous. One wrist and both knee joints were involved, and these joints recovered perfectly, so that now he has perfect use of all these joints that were seriously involved.

Dr. Edward H. Ochsner:—It seems to me several of the statements made by Dr. Ryerson ought not to go unchallenged. First, in reference to the injection of Lugol's solution. I do not doubt that Dr. Ryerson has had excellent results in his cases, but we must not forget that very often when we employ a new remedy we get a series of excellent results. I heard Dr. Hoffa, of Berlin, speak upon this subject about a year and a half ago. He said that when von Bergmann's suggestion first came out he used the remedy and for a time seemed to get better results than by any other method, but that upon longer trial he found that the results were no better, and it seemed to him not even as good as by immobilization.

I have no quarrel with Dr. Ryerson as to what he says with regard to the Bier's constriction method or the Wright vaccination method, but I have to disagree with what he says in reference to immobilization. If we are going to immobilize we ought to immobilize sufficiently long, and if this is done I do not believe that immobilization is going to increase the per cent. of cases with resultant ankylosis. In order that we may have fibrous ankylosis we must, first of all, have abrasion of the synovial membrane. In order to have bony ankylosis we must first have abrasion of the joint cartilage. There is no one thing which prevents these abrasions so successfully as early complete immobilization. I do not believe an oculist would urge active and passive motion on the eyelids in order to prevent abrasion of the cornea in cases of gonorrheal ophthalmia. On the contrary, he uses a solution of atropin and keeps the patient in the dark in order to keep the lids as quiet as possible. Many years ago the classic work by Hilton on "Rest and Pain" was written, and we ought to remember to this day that one of the essential features in combating inflammation is by securing rest. After abrasion of the synovial membrane and the cartilage have once occurred I do not believe any amount of active and passive motion is going to prevent ankylosis.

Dr. Victor J. Baecus:—I wish to mention briefly my experience as gained from the treatment of ten cases of gonorrheal urethritis. My own experience corroborates that of Dr. Ryerson, so far as the injection treatment is concerned. I will detail two cases which will illustrate the value of injections in these cases.

The first patient, a woman, 22 years of age, was treated for gonorrheal arthritis. The treatment consisted largely of potassium permanganate, 1-5000. At about the fourth week she exposed herself, and I was called four days later and found her with the following symptoms: She had elevation of temperature; she complained of pain; there was progressive enlargement of the knee joint, so finally there was an enormous swelling of the entire knee. I would like to ask

Dr. Fuller and Dr. Ochsner what would they do in such a case. The patient's leg was immobilized for a week, but the condition became progressively worse. The swelling did not decrease; the pain was more intense; the temperature was higher. Under local anesthesia we aspirated the joint, removing about four ounces of pus. The pus was examined by Dr. Herzog, who demonstrated gonococci in the pus removed from the joint. We injected 3 per cent. carbolic acid into the joint, which was repeated twice at intervals of five days, and at the end of five weeks the patient walked out of the hospital in excellent condition. This patient was a physician, and the ankle and left knee were involved. In another case the gonococcus was demonstrated in the prostatic discharges, so that there was no doubt as to the diagnosis.

In these cases, where there is no empyema of the joint or suppurative inflammation, I do not think Dr. Ryerson would recommend washing out or irrigation of the joint.

Dr. Ryerson (closing the discussion):—With reference to the remarks made by Dr. Miller, that frequently in these cases there is a mixed infection, I will say that has not been my experience. My experience, however, has not been large. In only eleven cases of mine were microscopic examinations made, and in all of these gonococci were found; in several of the others, in which there was a cloudy fluid which strongly resembled pus, there were no germs whatever. The fluid was sterile. It is thought that cloudiness is usually caused by the presence of bacteria.

Dr. Fuller thinks aspiration of these joints would be useless if there is no fluid in them. If there is no fluid in the joint you can not aspirate. It is only in cases in which there is fluid that this treatment is at all appropriate. I have no doubt there are cases where cocci exist in the synovial tissues, deep in, and in the periarticular structures without any particular effusion in the joint, and that the iodine, possibly due to its penetrating powers, and possibly, on the other hand, due to its counter-irritative powers, by leading to an increased blood supply to the part, has a far better effect when it is painted, as it were, directly upon the absorptive inner structures of the joint, and might easily bring us better results than can be obtained by painting it on the skin. There are those who believe that painting iodine upon the skin exerts a certain curative action in certain diseases. If there be no effusion in the joint, I should hardly want to inject the joint. In the first place, it would cause an undesirable degree of distension, and it would be painful. I saw evidence of this last Monday, when I injected the great toe of a man who had a second occurrence of discharge. He was in the hospital last fall; he had a gonorrhea which subsided after a while. His gonorrheal knee got practically well under Bier's congestion treatment, so that there was only slight limitation of motion. He came in later with a new discharge from his urethra, and on examination the metatarsal and phalangeal joints were involved. I injected iodine into them, which caused pain and distension of the joints. The pain shortly disappeared, so that in a short time he got along extremely well. Dr. Fuller said that passive motion of any one of these inflamed joints is not advisable or possible. That is not true. In at least the last five cases I gave the patients ethyl chlorid (which I do not like to do because it is not perfectly safe), or preferably nitrous oxid, and moved the joints at intervals of two or three or four days, and I believe the reason why these joints did not become ankylosed was because I instituted motion. These cases of gonococcal arthritis were of the severe type.

Dr. Webster spoke of obtaining an excellent result in one case from the use of Torrey's serum. Torrey reports 40 cases in which his serum was used. The serum is obtained by inoculating large-sized rabbits with gonococci, and after a varying period of from five to six injections the serum is withdrawn and then used as an injection.

Dr. Ochsner says immobilization is the thing to use. Immobilization is not the thing to use, simply because the inflammation is periarticular. If it were confined to the joint itself, immobilization would not be out of place, and we have *prima facie* evidence of hundreds and thousands of cases of tuberculosis in younger people and in children with no tendency to ankylosis from immobilization. Dr.

Ochsner has said we can not have ankylosis without a lesion of the cartilage. We can not have true bony ankylosis or fibrous ankylosis without a lesion of the cartilage, but we can have a very serious functional ankylosis from shrinkage and contraction of these infiltrated tissues in knee joints. I have cut into two or three of them in which there was gonococcal infection. The tissues from the skin to the interior of the joint were fully an inch in thickness, all infiltrated with inflammatory products. Fibrin is one of those products. On the other hand, there is a deposit of more or less connective tissue, and this connective tissue is not flexible nor elastic, and if we allow such joints to remain perfectly still for three or four months they get stiff, and if there is functional ankylosis it is because the soft tissues have shrunk or have become hard around the joint so that motion can not be made. That I believe to be a fact in many cases I have seen. Passive motion will do no injury, and it is indicated in practically all of these cases. My experience comprises forty-six cases of gonococcal arthritis, and, while it is not sufficient ground on which to base any such paper as I have read, yet I have had such excellent results from injections that I am interested in having other physicians try this treatment and report their results.

DISCUSSION ON DR. OCHSNER'S CASE.

Dr. Thor. Rothstein:—I wish to call your attention to the symptoms which will assist you in understanding the case.

When I saw the man first he presented the picture of spastic paresis in all four extremities; but the paresis was more pronounced on the left side than on the right. There was paresis of the left arm, so that there was only a little movement in the joint of that arm. The left leg could be moved a little more than the right. In the right arm mobility was much impaired; mobility in the right leg was also impaired considerably. On the left side the arm and leg could be moved freely, but in the leg there existed a certain degree of stiffness. Stiffness was pronounced on the right side, so that it was hardly possible for him to execute any passive movements without intense pain, on account of contractions. The patellar-tendon reflexes on the right side were very much exaggerated, where the nodular tumors existed. There was ankle clonus; also the Babinski sign. On the left side the reflexes were decidedly increased; also the ankle clonus. There was no patellar clonus, and but slight Babinski. The Babinski sign was not always present. He had an extreme tremor, very much like an intention tremor, but differing from an intention tremor in that when he tried to move the head the tremor would occur, but would persist for a long time after he ceased making movements. I was not able to demonstrate clearly any disturbance of sensibility except in the left hand. He did not feel quite as well with this hand. We tested the sensibility of this hand by having him take hold of different objects. He presented some other symptoms, especially in connection with the eyes. There was pronounced nystagmus. As he looked from left to right pronounced nystagmus occurred. The right eye was clear, and there was no paralysis of that eye. The iris reacted normally. The tongue, when put out, would deviate to the left. The left half of the tongue does not seem to be quite as large as the right half. That symptom, however, is gradually disappearing. He has perfect control of his bladder and rectum. When he presented these symptoms we were suspicious of multiple sclerosis; but there were some symptoms in the case which led us to doubt multiple sclerosis—the rapid development of the paresis and its dissolution. Of course, tremor, nystagmus, and asymmetry of the tongue may exist even in a normal individual. When he turned his head to the right we became more suspicious of what his trouble was on account of the pain it caused him. When he turned the head to the right slowly there was no pain felt; but when he turned it more than half way there was considerable pain felt. This pain went through the whole right half of the body from the whole neck. It seemed clear that the tumor was situated in some place in the cervical region. By examining the muscles and following the spinal column, one could decide that the tumor was situated more to the right of the vertebral canal than the left. By percussion of the precapular muscle and rhomboideus minor we found there was muscular contraction, which was more pronounced on the right than on the left side. There-

fore, it seemed to us clear that the tumor was situated so high up that it compressed the cord above the segments which give the nerve supply to these muscles, that is, the nerves from the fifth, fourth, and first segments, and some fibers from the sixth also. The tumor lay undoubtedly above the fifth segment, corresponding to the fourth or fifth nerves. When he turned his head to the right he felt pain, which passed upward into the back of the head. We asked the patient to outline where the pain was felt. It did not radiate to the ear, but in the region between the ear and the middle line of the neck. When he turned his head to the extreme right, it is probable that the movement which occurs in the second vertebra might have caused the tumor to press on the roots of the nerves through the occipitalis minor. After the operation he improved considerably. A few days later he presented a motor paralysis on the right side, but this condition has improved.

As to the prognosis, it is fairly good, but how much he will continue to improve it is hard to tell. The nystagmus and atrophy of the tongue may indicate the existence of another lesion in the central nervous system. We have no doubt that the symptoms both in the leg and arm will continue to improve.

Regular Meeting, Feb. 20, 1907.

A regular meeting was held Feb. 20, 1907, with Dr. C. P. Caldwell in the chair. In the symposium on influenza, papers were read as follows: 1. Etiology, Diagnosis, Symptoms and Treatment with Special Reference to the Cardiac, Pulmonary and Gastrointestinal Complications, by Dr. J. L. Miller. 2. Complications of the Nervous System, with Treatment, by Dr. William G. Stearns. 3. Diagnosis and Treatment of Acute Mastoiditis Due to Influenza and Infectious Diseases, by Dr. William L. Ballenger. 4. Diagnosis and Treatment of Certain Ocular, Cerebral and Other Complications Resulting from Infection of the Nasal Accessory Sinuses, by Dr. H. Manning Fish. The symposium was discussed by Drs. Theodore Ticken, Adolph Gehrmann and Elmerin S. Baer.

DISCUSSION OF SYMPOSIUM ON INFLUENZA.

Dr. Theodore Ticken:—There is not much to be added to what the essayists have said this evening, and I will try to stick closely to the medical side of the subject, because I do not pretend to know anything about the other phases.

As to the etiology of influenza, there is no question whatever but that the bacillus of Pfeiffer is the exciting cause. As Dr. Miller has stated, in about 60 per cent. of the patients with cough we find the bacillus of influenza, which may lead us to think it is a harmless organism, but that is not the case. In an article which was published last year in one of the German medical journals, about 400 cases of scarlet fever, whooping cough, measles and diphtheria in which the sputa was examined the author found the influenza bacillus in from 60 to 70 per cent. of the cases; and at autopsies, in cases of measles with broncho-pneumonia, the bacillus of influenza was considered the exciting cause of the pneumonia, so that it is not the harmless organism we have been led to believe. The same applies to scarlet fever cases. It is thought that many of the pneumonias in scarlet fever are largely due to the influenza bacillus or at least are influenced by its presence. In almost every case of whooping cough Jochmann reports having found either a "pseudo"-Pfeiffer bacillus or the bacillus of influenza proper. In cases of lobular pneumonia or of severe bronchitis the bacillus of Pfeiffer was present in enormous numbers. We must not say it is harmless any more than we can say the diplococcus pneumoniae is harmless, because it is always present, for all it wants is a chance "to get busy," and it will certainly do so.

As to the circulatory disturbances, Dr. Miller laid stress on the slowness of the pulse. Not infrequently we have tachycardia, with a very high pulse rate of 150 to 160, of low tension, as well as bradycardia, where the pulse is as low as 40, 36, and I have seen it as low as 32. We all know that we have endocardial, as well as myocardial involvement.

As to pneumonia which occurs in influenza, Dr. Miller said we do not often have a crisis; that we have many cases of unresolved pneumonia, and that there is a tendency to abscess formation. There is also a tendency to the opposite

conditions; that is, fibrosis or fibroid phthisis, which the older writers frequently mention.

Another thing we must consider is the exciting action which the bacillus of influenza has on tubercular foci. Patients with tuberculosis do not bear influenzal infections very well. The fatalities among tubercular patients are greatly increased by the presence of the bacillus of influenza.

Jochmann differs from several American writers in stating that he has never been able to find the bacillus of influenza in the circulating blood. He has made over 400 examinations with negative results. He took particular pains in making these examinations, and mentions the fact that he used nothing but culture media containing hemoglobin, which is necessary for the growth of the bacillus of influenza.

The physical signs are especially interesting, and I remember Dr. Billings called our attention to the paleness of the palate years ago when we had an epidemic of influenza. We found in most of the cases examined that the pharyngeal margins were deeply injected and the upper portion of the uvula was very anemic, and this is something we should always look for.

I will not say anything in regard to the treatment, because it is entirely symptomatic.

Dr. Stearns made the statement that pharyngeal paralysis was about as frequent in influenza as in cases of diphtheria. I am free to admit I have never seen such a complication in my short experience. I have seen many cases in which there was pharyngeal paralysis complicating diphtheria, but have never seen one in influenza.

Another thing which I have noticed in this epidemic is the number of cases of irritable bladder. I have looked through the literature and have not been able to find any mention of this particular condition. In about one out of every four cases I have seen this year, where the infection was severe, there was an irritable bladder. Microscopic examination shows a catarrhal cystitis. I have not looked for the influenza bacillus in the urine of these patients. I would ask the gentlemen who are to follow me in the discussion to speak of that phase of the subject. I had a young girl this evening who urinated every ten or fifteen minutes; she has symptoms of influenza, and numerous bacilli were found in her sputum.

As to Dr. Ballenger's statement with reference to the use of peroxid of hydrogen, I think he has exaggerated its use somewhat. In the case of a member of my own family I had an argument with an aurist who suggested using it, while I insisted that he should not do so. The patient had otitis media. There are two sides to the question of using peroxid, and each has its champions.

Dr. Adolph Gehrman:—The most interesting point that has been brought out in the papers that have been read this evening is the wide distribution of the influenza bacillus in the body. While its distribution can almost be extended to include every part of the body, still in our bacteriological examinations of the material we have found some difficulty in proving the presence of the influenza bacillus. It is relatively easy to find it on mucous surfaces and in pus that has recently formed. Apparently the bacillus dies as soon as the pus remains for any length of time, and we have probably the effect of the influenza bacillus through its toxin resulting from disintegration. This is one of endotoxins about which so much has recently been written. It is through disintegration that it is liberated, and then we see its marked toxic effect.

As far as the distribution of this bacillus is concerned, I have found it on every mucous membrane in the body, including the bladder; in a number of cases also in vaginitis, and again in urethritis several times. It is possible, when one makes a sufficient number of cultures on proper culture media at different times, to be quite certain it is present, but one must be very careful in making direct microscopic examinations before accepting organisms that stain in the peculiar way that the influenza bacillus does as the typical influenza organism. Its presence in large numbers would make it quite clear that we have to deal with influenza; at other times the number is small, so that it is difficult to decide by direct examination; but if cultures are made at the same time the diagnosis can be established.

Dr. Almerin W. Baer:—The subject of treatment, as set forth in the first and second papers, is so opposite to each other in the view taken, from a scientific standpoint, that I can not help but refer to it.

The first essayist recommended the coal tar preparations exclusively. I do not know of anything that is doing more damage to-day than the use of the coal tar preparations. I know of nothing that is more debilitating to sick patients than the addition of coal tars to their already diseased condition. I feel that the coal tar preparations have and are doing much damage, because during the epidemic of grip in 1889 and 1890 the doctors used them so freely and indiscriminately many manufacturers were induced to get out headache powders of various kinds containing coal tar preparations, and the laity to-day call at our drug stores and ask for them because they have learned how to use them—misuse them is a better expression—from the physician, and I think it is time for us as physicians to recommend the discontinuance of them, even among ourselves, because of their injurious effects.

DEMONSTRATION OF TWO CASES.

SUPPURATIVE THROMBOPHLEBITIS (VENA ILIAC).

2. ATRESIA RECTI VESICALIS.

CARL BECK, M.D.

CHICAGO.

The two cases which I am demonstrating to-night are both of rather rare occurrence. The first one is a case of thrombophlebitis suppurativa. Inflammatory processes of veins are very common. There is hardly any inflammation of any extent without thrombophlebitis, but collateral circulation is quickly established. Only when large trunks of vessels are affected and the circulation of a large district is impeded does the affection gain importance. The minute changes of these conditions are well known. More difficult is occasionally the diagnosis from the meager symptomatology. If we have to deal with a superficially located outer thrombosis of a large vessel the diagnosis may be easy, as the vein can be felt as a solid, painful cord, and the edema will clearly show an impediment in circulation, but difficult, and even impossible, may be the diagnosis of a deep-seated thrombosis in the abdomen, chest or cranium.

I have had, by chance, in short succession, two typical cases of very extensive, deep-seated thrombophlebitis suppurativa in which I could make a diagnosis and verify it by operation. One of these cases I am demonstrating to-night; the other one is still at the hospital, reconvalescing. In both of these cases the disease was diagnosed beforehand by the symptoms already mentioned, namely: pyemia and localized pain, but a close observation showed also another symptom, which may come to be regarded as pathognomic if it should be observed again and again. I was glad to hear Dr. A. J. Oshsner tell of having observed the same symptom in a number of cases when he discussed this case before another society, and, coming from a man of so close and good observation, I think I am correct when I say that the symptom is general in most of these cases. It consists in an intermittent edema of the parts effected which lasts for a few hours, then disappears, appears again, disappears and finally becomes a stationary and permanent edema. This premonitory sign was observed in both cases of mine for several days, and my explanation of it was that a well-standing thrombosis embarrassed the circulation temporarily, that collateral circulation or increased absorption was able to dispose of it, but finally the thrombus filled up the vessel and the edema became permanent. The prognosis of this disease is very grave. To every one who saw either one of these two cases of mine it seemed that recovery was out of the question, and I am inclined to believe that only the surgical treatment which was afforded the patients saved them. The history of the case is as follows:

Mr. F. S. had a slight infection of his finger, eight months ago, which led to an acute inflammation of his axillary glands, with an abscess. Somebody incised this gland, and some time afterward the gentleman developed a grave general

infection, pyemia without any localization in special. The case remained obscure for months. It was regarded as typhoid fever because he ran high temperatures, had profuse diarrhea, chills and general grave symptoms. Finally a swelling of his right arm appeared which seemed to indicate suppuration, but the incision on three places of the arm revealed only an exudate of gelatinous condition. When I first saw the patient (April 6, 1906) I saw the typical picture of a pyemia, daily chills, sometimes two a day, with high fever, sweats and a high degree of anemia. The only sign pointing to a focus was a pain in the left hypochondriac region and some tenderness in that neighborhood. An occasional edema of the left limb, which would quickly disappear and reappear in a few hours, also an edema of the abdomen on that side and of his buttocks, indicated deep suppuration, and I decided to incise for an abscess. I was surprised to find no abscess, but a solid and enlarged white femoral vein. I tried to find the upper extent of the thrombus, as far as I dared to go, but the iliac vein was thrombosed also. The only treatment that seemed to me feasible was to make a few incisions into the vessel to lead the stream of drainage outward. At first no blood nor pus, but only serum came from the wound, but after three days a profuse pus discharge appeared. For twelve weeks an after-treatment of the most trying character showed that the whole retroperitoneal space up to the diaphragm was filled with pus. A daily irrigation with great difficulty finally led to healing, leaving only a slight swelling on the left limb. The gentleman has gained in health greatly. His weight increased 48 pounds and, as you see, he is perfectly well.

Soon afterward another case of the same character with thrombosis of the subclavian vein, with the same intermittent edema, treated in the same manner, was under my observation. In this case also a radical operation was followed by recovery.

In summing up, I have learned three points from these cases: 1. That no radical operation should be done in such infections, but opening and drainage of the abscess should be effected with the utmost delicacy. 2. That an intermittent edema may be a pathognomonic symptom of a deep-seated thrombophlebitis. 3. That a careful drainage of large thrombosed veins will yield good results, even in very bad cases.

The second case I wish to show you is one of a rare variety of congenital malformation of the rectum and bladder.

Dr. Zoehrer, of Vienna, and Dr. Collins, of Dublin, Ireland, found only three abnormalities in almost seventy thousand cases, but the usual proportion is about one to five thousand. A malformation of such a high degree as I am showing to-night is, however, of extremely rare occurrence, and a perfect cure of the condition is still more rare. The history of the case is as follows:

I saw the child first when it was 16 hours old. The obstetrician in the case had diagnosed imperforated anus. An attempt was made to find the rectum by a small incision, but an incision of an inch and a quarter depth in the anatomic direction proved an absence of the rectum. Four hours later a still deeper incision was made, at the hospital, without result. While the child strained, some urine tinged with meconium came. It was clear that the intestinal canal communicated high up with the bladder. The only means to save the child was a left colostomy, which was performed, and, though the child was very sick for some time, it recovered. When about 6 months old, it was demonstrated before the Chicago Medical Society on April 10, 1901. A short time afterward an attempt was made, by passing a sound downward, to find the lower end of the rectum. It was found that it was about an inch above the coccyx. A resection of the coccyx was made and an opening established, but it was impossible to fasten the intestine at any place, except to the coccyx, with one stitch. The opening contracted and had to be kept open with sounds for months. This treatment was very trying and painful and for a long time the child suffered a great deal, owing to the accumulation of feces and occasional straining of the bladder, but this constant pressure downward had its advantage as well. With the aid of my little finger I very frequently pulled the rectum downward and finally I was able to do a plastic operation by the formation of two flaps from the but-

tocks. At the same time I tried to give the child an action of the sphincter (which was missing) by using the flaps from the muscles of the seat. This healed and gave to the child, as you see, a very good function. The canal between the rectum and bladder was exposed and ligated, but it did not heal fully, so that there still exists a slight fistula, but, on the whole, the result is a perfect one. Three months ago I closed the opening of the bowel in the abdominal wall, and the child, which is now 6 years old, is apparently in normal condition.

HYDATIFORM MOLE.*

R. RALPH FERGUSON, M.D.

CHICAGO.

I wish to report a very interesting case of hydatiform or vesicular mole and to speak of a common case of abortion which occurred some time previous to the present case. I also desire to bring out the parallelism between the two conditions up to a certain stage and to show the differences between the two conditions beyond that stage.

Up to Jan. 1, 1906, there had been reported only about 220 cases of hydatiform mole. Not a great deal can be found in the literature on the subject. Absolutely nothing positive is known as to the causes. It usually occurs between the ages of 30 and 40 or during the latter half of the child-bearing period, and is twice as frequent in multiparæ as in primiparæ. Findley thinks that it is probably of maternal origin and is the result of a vesicular degeneration of the chorionic villi resulting from a disturbed maternal circulation. Other causes mentioned are syphilis, diseases of the decidua, death of the fetus with subsequent overgrowth of the chorion, and cystic degeneration of the ovaries.

Malignant degeneration of hydatiform mole occurs in about 16 per cent. of all cases, while 40 per cent. of deciduoma malignum arise from vesicular moles. No sharp line can be drawn between benign and malignant moles and macroscopic and microscopic examination may not determine the character. The length of time a mole remains in the uterus does not influence its disposition to malignancy.

There is really only one way to diagnose the condition, viz.: by seeing the vesicles, and they are very seldom expelled spontaneously before the actual abortion is in progress. Therefore, the diagnosis is rarely established until expulsion occurs.

The most common clinical evidence is the rapid development of the uterus at a given period accompanied by hemorrhage; also the consistency of the uterus. Pregnancy may be in the fourth or fifth month and yet the uterus may be as large as at full term, but it is more smooth and rounded than usual and no fetal parts can be felt. Conservative methods of treatment have no place here; as soon as the diagnosis is established the uterus should be emptied at once and the patient watched not for a month, but for several years for any tendency to malignancy.

The first case was as follows: The patient was brought to me July 1, 1906, with a history of having the last menstruation early in November, 1905. No other changes occurred until the last of December, when the abdomen seemed slightly enlarged and a slight morning sickness appeared which continued up to about Jan. 10, 1906. On January 2 she began flowing, the morning sickness disappeared and no further increase in the size of the abdomen was noticed. She continued flowing, with only a day or two intermission, until July. On July 1 she stated that occasionally she discharged pieces of firm tissue along with heavy clots and also had saved a piece about the size of a hickory nut. This proved to be a piece of placental tissue partly organized. At times she had felt feverish, was considerably constipated and was becoming weaker all the time. I made an internal examination July 1 and found the uterus enlarged to about two and one-

* Read before the Northwest Suburban Branch of the Chicago Medical Society, Dec. 10, 1906.

half times its normal size, soft and boggy, and a patulous os into which I could only get the tip of the index finger.

She states that at no time did she have a sudden hemorrhage nor did she have any pains. On July 5 I did a curettement, and the patient went on to a normal recovery.

Now, as to the case of hydatiform mole. Mrs. B. First saw patient Sept. 7, 1906. Aged 40, slight and short. Norwegian. Weight, 98 pounds. Sallow, almost cachectic complexion and very weak, barely able to be about. Family history negative.

Menstrual History.—Began menstruating at age of 16, always regular, no dysmenorrhea. Married rather late, at age of 31 years. Two years after marriage the first child was born; everything apparently normal. Then followed three more children at intervals of about eighteen months. All were normal in every respect; never had a miscarriage at any time. She nursed each child much longer than usual, even while she was pregnant with the following one. The last birth was April 30, 1904. After this birth she has never felt well, spoke of feeling tired all the time, but nursed her baby even beyond the second year, which was April 30 last. Somewhat constipated. Last menstruation was May 19, 1906, normal in amount and color. During the next nine weeks nothing in particular was noticed, except the same tired feeling and a slight increase in the size of the abdomen. No morning sickness at any time. On July 22 she began to flow a dark-colored, watery fluid, which continued uninterrupted, except for a day or two, until she became too weak to attend to her household duties.

The history so far suggested nothing more than a common case of abortion similar to previous case reported, except that there had been no morning sickness. This was September 7th, when pregnancy was about four months along; but the uterus was large enough to indicate a seven or eight months old pregnancy. Mrs. B. states that about July 30th the size of the abdomen seemed to increase very rapidly; so much so that she spoke of almost feeling her abdomen grow. This lasted between three and four weeks, and was after flowing began, which was about July 22. I made an internal examination this first time and found the cervix soft and boggy and the os patulous, the uterus being over ten fingers above the pubes. She had never felt any life, so my first thought was to empty the uterus at once; but their circumstances would not permit her being sent to the hospital and I feared infection if done in the home, so I thought to watch the case a few days. I gave her one-half grain of codeine on the night of the seventh; on the night of the ninth she reported less flow, so I repeated the same dose on night of ninth and also on night of the eleventh. On the night of the eleventh at midnight I was called in to see the case. She had a very sudden and severe hemorrhage of thin red blood to the amount of over a quart. I made an internal examination and found the vagina full of clots and a few vesicles which I discovered later. The os was dilated, but not sufficient to admit even the tip of the finger. Fearing another hemorrhage, I packed very tightly, intending to send the patient to the hospital in the morning. But at three a. m. I was called back and found that the tampon had been expelled and along with it the following described mass:

It was just large enough to fill a quart Mason jar and consisted of hundreds of small grape-like bodies filled with a watery secretion. These cystic bodies were of different sizes, from a split pea to a hazelnut. On puncturing these cysts the fluid was turbid and rather heavy. The mass in the jar looked very much like hundreds of small white grapes in a reddish current jelly.

There was still considerable hemorrhage, so I packed again very tightly. Of course, an immediate curettement was indicated, but I thought the risk too great in such a place. In the course of half an hour, however, the packing was saturated, so I removed it, and with the aid of the husband and an oil lamp I did what I thought was a fairly good curettement, using only a dull enrette, removing a considerable number of cysts. Hemorrhage stopped and the patient went on to what I thought was a normal recovery, her temperature never being above

99°. One thing was noted, however; the abdomen seemed full even though the uterus contracted down to a little over twice its normal size.

But this was not the end of the case; exactly four weeks from the discharge of the above mass of cysts she had another sudden hemorrhage, but of a very watery character; a few more cysts were noticed. Being close at hand, I did not pack this time, but watched the case very closely. The discharge following this was almost entirely watery, but of a peculiar odor and slightly tinged with blood. I again tried to get the patient to the hospital, but could not.

The next day the patient was up and apparently in good condition, only weak. Two days later she had another discharge of watery fluid and a few vesicles, and two days later another. I explained the seriousness of the case to the husband for about the hundredth time, so on October 15th I did a curettement at the hospital and was not satisfied until I touched the whole interior of the uterus with my finger.

This has been just two months ago and she has gone on to a normal recovery. Microscopic examination of the specimen parts removed at last curettement showed no tendency to malignancy, but this does not rule it out. Unfortunately, I tried to preserve the specimen in alcohol instead of formaldehyd and thereby lost it.

SYPHILIS OF THE LARYNX, WITH PRESENTATION OF CASE.*

J. M. BICK, M.D., AND G. W. WAGNER, M.D.

CHICAGO.

History.—Mrs. B., colored, aged 26. Married twelve years. Father living and is in good health. Mother living, but has asthma. Patient has seven brothers and sisters living, all in good health. Two died in infancy, cause unknown. One uncle died of pulmonary tuberculosis. Husband living, is in good health, and denies venereal infection. Patient had a miscarriage seven years ago, which occurred in the fifth month of gestation, and she says, followed a fall on the abdomen. She has never had any other pregnancy. About two years ago she noticed a swelling in the hypogastric region, which has steadily grown larger. She has not had any skin eruption or persistent headache. She has not lost flesh nor had any night sweats. Complains of a slight cough, but expectorates little. Her appetite is good. Last June she began to suffer with hoarseness and occasionally had some difficulty in breathing. Previous to this time she has never had a sore throat. The above symptoms persisted with periods of amelioration and exacerbation up to October 15, when she presented herself for treatment. She was then suffering with a rather severe dyspnea and complete loss of voice. She had no rise in temperature nor marked constitutional symptoms. On inspection of the larynx it was observed that one-half of the epiglottis had been destroyed by ulceration, which, however, had healed, leaving a dense fibrous cicatrix. The mucous covering of the entire larynx was intensely hyperemic and infiltrated. The vocal cords, as the result of thickening of the ventricular bands, could not be brought into view. In the absence of fever and other constitutional symptoms, together with the local findings, a diagnosis of syphilis of the larynx was made and concurred in by Professor Robertson. An examination of the lungs by Dr. John Fisher revealed nothing abnormal. Abdominal and pelvic examination made by Dr. Emanuel Friend revealed a uterine fibroid. Sputum examination showed no tubercle bacilli. The occipital glands on both sides were enlarged. The patient was put on antisyphilitic treatment. After several days her dyspnea improved and the voice was somewhat clearer. There was less hyperemia, but there remained considerable thickening of the right ventricular band, so that the right vocal cord could not be seen. The left cord was very much congested, but otherwise normal. The treatment was continued, and at the present time the dyspnea has disappeared entirely, but the voice is still husky. The mucous membrane of the larynx is practically normal in color, but more or less thickened over the arytenoid cartilages and ventricular bands. Both vocal cords are now plainly visible, but are thickened, slightly

* Read before the North Side Branch of the Chicago Medical Society, Dec. 20, 1906.

reddened and fail to approximate normally, the right cord lagging more than the left.

In considering the mode of infection we find that primary syphilis of the larynx is almost unknown. Bosworth¹ states that so far but a single case has been recorded. Congenital and secondary syphilis are rare, while the tertiary lesions are the ones usually met with. von Bergmann² quotes Gerhardt, who assumes that the larynx is affected in more than 10 per cent. of all syphilitics. Robertson³ mentions the following: Lewin, 2.4 per cent.; Schrotter, 3.4 per cent.; MacKenzie, 2.8 per cent.

Pathologically, secondary syphilis of the larynx makes its appearance in from six months to two years after infection. This is characterized by a hyperemia which comes on rather insidiously, and usually without marked subjective symptoms. If the vocal cords are involved there is impairment of the voice. Mucous patches and superficial ulcers, while rare, do occur. The latter have sharply defined margins. The tertiary lesions as a rule do not appear until three or four years after the primary infection, and may be delayed up to fifteen or twenty years. In this stage we have the formation of "gumma, deep ulcerations and cicatrices, causing dyspnea and alteration of voice. The gummata may be in the form of multiple tumefactions or a diffuse infiltration." "Small gummatous nodes may be reabsorbed, while large ones usually soften and break through into the larynx, giving rise to deep, flask-shaped ulcers with infiltrated edges, and covered with a dirty yellowish exudate. The ulceration and infiltration sometimes extend down to the laryngeal wall, causing perichondritis and necrosis of the cartilage." Following the ulceration dense fibrous bands of scar tissue are formed, which later contract, causing distortion of the larynx.

Of the symptoms of syphilis of the larynx, hoarseness is present early in the disease, which later may develop into complete aphonia. If the ulceration is limited to the epiglottis the voice may be but little affected. Dyspnea in secondary syphilis is not very marked, but in the tertiary stage often becomes troublesome and may even threaten life from thickening of tissue, new growths, or cicatricial contraction of parts. Dysphagia is also not very prominent until later in the disease. Epiglottic thickening and ulceration seem to interfere but little with the act of swallowing. Pain, except on deglutition and on using the voice, is frequently absent. Cough, if present early, is caused by an effort to remove secretions. Later, as the larynx becomes constricted, it may acquire a characteristic spasm. Severe cases may be accompanied by fever and debilitated patients often have colliquative sweats. Specific eruptions seem rather infrequent, and constitutional symptoms are slight, unless dyspnea and dysphagia are well marked. The appetite generally remains good. On making a laryngoscopic examination, the hyperemia, mucous patches or superficial ulcers of the secondary stage, previously described, will be observed. In the tertiary stage we have the presence of gumma, the characteristic deep circular or flask-shaped ulcers, or bands of cicatricial tissue. Enlargement of the cervical glands are also met with.

Concerning the differential diagnosis, the hyperemia of tuberculosis of the larynx is of a much paler red than that of syphilis. Tubercular ulcers usually are more numerous and more superficial, with an irregular border and attended with pain. The ulceration is more likely to begin in the lower larynx, while in syphilis the upper portion is often evolved first, the order of frequency being the epiglottis, the vocal cords, the ventricular bands, and lastly, the arytenoid commissure. Fever and grave constitutional symptoms as a rule are absent in syphilis. Tubercular laryngitis is frequently attended with pulmonary involvement. In the early stages the iodids may have to clear up the diagnosis. Incipient carcinoma in the early stages also may be difficult to distinguish from syphilis, and here again, we may have to depend upon the iodids. We should remember, however, that patients with cancer of the larynx will often improve for a

1. Bosworth: Diseases of the Nose and Throat.

2. von Bergman: Surgery, vol. ii, p. 207.

3. Robertson: Journal A. M. A., Jan. 1903.

4. Ziegler: Pathology.

short time under antisyphilitic treatment, but sooner or later will show a gradual loss in weight. The hyperemia of cancer is usually limited to one side of the larynx. Later, in cancer we have a distinct tumor, which precedes ulceration. The cachexia of cancer is absent in syphilis. Sarcoma of the larynx is also characterized by a distinct tumor, the surface of which may be eroded, but no ulceration with pus formation. In lupus of the larynx we get a highly injected membrane with irregular contour, but no ulceration. Lupus also appears somewhat earlier in life, unless the case is one of congenital syphilis. In chronic laryngitis the membrane is uniformly hyperemic, and perhaps somewhat thickened, but never ulcerated.

The treatment of syphilis of the larynx is constitutional and local. Secondary lesions as a rule yield readily to the administration of mercury salts. When gummata and deep ulcers are present the iodids are indicated, which often must be given in large doses. If the appetite is poor tonics are of benefit. The use of tobacco and alcohol should be interdicted. Locally stimulating solutions of zinc chlorid, silver nitrate, tincture of iodine or a saturated solution of iodine crystals in creosote may be used. For deep ulcers of the epiglottis Lenox Brown recommends cauterization with solid silver nitrate or the galvano-cautery. When stenosis of the larynx results dilatation with Schrotter's bougies or O'Dwyer's tubes is practiced.

If dyspnea becomes very great so as to threaten life, intubation or tracheotomy is imperative, and this should be advised rather early. Following tracheotomy we may forcibly dilate the larynx, preferably from above, with MacKenzie's or Navratilo dilator. Schrotter's three-plated dilator, which is much stronger than either of the above, is often of service when the stricture is composed of dense fibrous tissue. Adhesions between the cords or ventricular bands are best divided by means of Schrotter's or MacKenzie's concealed knife. Following dilatation intermittent intubation is advisable for a longer period, and may be necessary for the rest of the patient's life. More or less permanent impairment of the voice is to be looked for.

THE GENERAL PRACTITIONER.*

G. W. GREEN, M.D.

CHICAGO.

The fellow who does the work and gets but little credit for it; the one who looks after all physical and mental ailments from the crown of the head to the sole of the foot; the doctor who goes at every beck and call, night or day, rain or shine, holidays not excepted. At one time not many years ago, this "family doctor" was held in highest esteem by the common people. He was considered the acme of the medical profession, the highest type of medical men, oftentimes held in higher esteem than the preacher. He was consulted about everything medical, many things matrimonial, and oftentimes, things theological. Why? Because the people found his advice the best they could get in these lines.

A change has taken place. This is the age of specialism. It has crept into commerce, manufactures, banking, and all of the professions, yes, and even into politics. In olden times one doctor looked after our hair, eyes, nose, throat, ears, chest and all the way down. Now we have our specialists for the eyes, ears, nose and throat, a chest and stomach specialist, and a heart specialist, and a man who makes a specialty of our kidneys, and still another to look after our nervous system, and a medical expert to tell us when our mind is wandering. If we need any carving we have the different surgeons with their specialties of the pelvic organs, of the chest, and orthopedics. Why this specialism in medicine, and is it a good thing for the people? It has come simply because medicine and surgery have advanced along special lines, and the great mass of the general profession have not or could not keep abreast with the advances, until to-day the great man in the eyes of the people is a specialist. He is the man who charges them \$25 for what they used to pay \$5. Is this a good thing for the people? Is it a good

*Read before the North Shore Branch of the Chicago Medical Society, March, 1907.

thing for the general practitioner himself? They have allowed themselves to get behind the times. They have not kept up with the advancement of their profession, and when Sam Smith has appendicitis he is rushed off to the surgeon; or when Julia develops endocarditis she is sent to the professor of heart trouble. These professors of course charge big fees. Very properly the people come to think their family physician does not know very much, and should receive the small fee he charges after the specialist has received his fat fee. A personal friend of mine, of considerable repute, told me that at one time he was caring for a member of a wealthy family who had typhoid fever. The patient developed a typhoid ulcer which perforated, and was diagnosed immediately by the general practitioner, who called in a surgeon to repair the rent. The patient recovered. The surgeon sent in a bill for \$2,000, which was paid without a murmur. The general practitioner sent in a bill for \$500, at which the family demurred, not because the services were not highly satisfactory, but simply because it was a little in excess of the ordinary rate per visit for which they had been paying. No wonder so much has been said about the division of fees. I say this is the fault of the general practitioner. They have educated the people along these lines. They must educate themselves so they can give the best that can be given, and then, and not until then, can they demand of the people their just division of fees. How can this be done? Simply by attaining a good foundation for medical work in the schools and hospitals, and then building on it. Many a good man fails to build after he has a good foundation.

One of the easiest ways of keeping up with the advances of medicine and surgery, and building on the broad foundation already laid, is to attend medical societies, local, state and national. Many say they can not afford to attend. I say you can not afford not to attend. You are brought in contact with live, progressive men and learn many a new point in diagnosis, therapeutics, or some little technique in surgery which clears up a doubtful case, cures a sick patient, or which makes a comparatively dangerous operation almost free from danger.

Another successful way is attending the clinics of the best man, and seeing how and why it is done. And another great help to greatness is the systematic study of every case. There is nothing so conducive to this systematic study of each case as a clinical history. It takes a few extra minutes to start this, but it saves you much time in your subsequent work with your patient. If there is the least doubt in a diagnosis, do not be afraid to call counsel (it bespeaks greatness), and follow the history of that patient through the hands of a dozen different doctors, if need be, to the operating table, or the postmortem room, and know what the trouble is. It gives you a confidence which tends to success.

In your hurry and bustle do not forget your microscope. Use it for your blood analysis, your pathological and bacteriological work. It will answer many a question for you and help you to know instead of guessing. Did I forget to mention the ophthalmoscope? Well, use it every day. It will save you a great deal of mortification.

Your duties are not all done when you have done all in your power to cure the sick. You should be posted in all matters of general public interest, and especially public sanitation. The cause and prevention of disease should be given thorough and careful study. Our public schools should be visited by the physicians in their vicinity, and health improvements, if any, suggested to the proper authorities by the organized medical society.

A doctor should be broad-minded enough to be generally posted in the ways of "high-handed finance" as practiced in Wall street and by the "get rich quick" people. He should put his hard earned money in safe investments so that at his death his family will not want. He should know enough of politics to be sure he is working with and voting for good and high-minded men. Treat every one as you would like to be treated. Keep your promises with the people. In other words, "give them a square deal."

When you have done all these things you will have made yourself the most valuable medical man to your families, and you will be able to diagnose and cure

their troubles better than any one else. Then, and not until then, will you be to your families what a general practitioner should be; then, and not until then, can we demand of them, and they will be glad to pay us, our just division of fees.
499 Wilson Avenue.

CRAWFORD COUNTY.

The Crawford County Medical Society met in regular session at the Carnegie Library, in Robinson, Thursday, March 14, 1907, at 2 p. m. In the absence of the president, Dr. Lyman Lowe was chosen president pro tem. The following members and visitors were present: Drs. T. N. Rafferty, I. L. Firebaugh, C. Barlow, Frank Dunham, Lyman Lowe, C. R. Burner and H. N. Rafferty of Robinson; Dr. C. E. Price of Eaton, Dr. J. E. Midgett of Flat Rock, and Dr. J. A. Ikemire of Palestine.

Dr. J. A. Ikemire read a very interesting paper on the Microscope and the General Practitioner. The author's conclusions were that the microscope was to be considered as a most valuable aid to the general practitioner in his every-day work, and was too often neglected; but that if one were compelled to choose between the laboratory and the clinical diagnosis, when there was apparently a contradiction—the latter, i. e., the clinical or bedside findings, should be given the most weight in reaching final conclusions. Dr. Ikemire also reported the case of a young woman who at his first visit seemed to have a simple follicular tonsillitis, but which quickly developed into a fulminating general peritonitis, with death in forty-two hours from time of onset of the throat symptoms. An autopsy was not held, but the doctor's study of the case had led him to wonder if the peritoneal infection had gained entrance to the circulation through the diseased tonsils. In the discussion which followed the report of this very interesting case it seemed to be the general opinion that this mode of infection was plausible, since we know that typhoid fever is sometimes contracted in this manner, and also considering the close relationship often existing between tonsillitis and rheumatism.

In the matter of unfinished business, the constitution of our society was amended so as to combine the two offices of secretary and treasurer into one under the title of secretary-treasurer, in order to facilitate the transaction of the business of the society. Dr. H. N. Rafferty was elected as delegate and Dr. J. W. Kirk as alternate, to the meeting of the State Society at Rockford in May. A voluntary contribution was raised to apply on the testimonials to be given Drs. Hollister and Ensign at the coming State Society meeting. On motion Dr. I. L. Firebaugh was requested to give a demonstration and quiz on Fractures and Dislocations at the May meeting of the society.

After the transaction of other business the society adjourned to meet the second Thursday in May, at the Carnegie Library in Robinson.

H. N. RAFFERTY, *Secretary-Treasurer.*

JACKSON COUNTY.

The regular monthly meeting of the Jackson County Medical Society for February was held in the new Hundley Hotel, Carbondale, Feb. 21, 1907, at 1:45 p. m. The following members were present: Drs. Keese, Monroe Etherton and Davis, of Carbondale, Dr. Grizzell of De Soto, Dr. Hortsman of Vergennes, Drs. Molz and Roth of Murphysboro. The following papers were read and discussed: Acute Bronchitis, by Dr. Grizzell of De Soto; Fifty Years' Experience with the Different Treatments of Pneumonia, by Dr. W. T. Ingram of Murphysboro, Ill. Meeting adjourned to meet at Murphysboro the third Thursday of aMrch.

M. H. ROTH, M.D., *Secretary.*

M'LEAN COUNTY.

The December meeting of the McLean County Medical Society was held in the Council Chamber of the City Hall at 7:30 p. m., Dec. 6, 1906. The communications from Dr. McCormack relative to life insurance fees and Dr. Black concerning the ILLINOIS MEDICAL JOURNAL were brought up. A motion prevailed that the presi-

dent and secretary make such reply to Dr. McCormack's letter as may in their judgment seem best.

A motion was made that a committee of three be appointed to answer the communication from Dr. Black. Motion seconded and carried. The chair appointed as such committee Drs. Rhodes, Chapin and Taylor.

Mr. A. E. De Mange delivered the address of the evening on the subject of "Medical Expert Testimony." He spoke of the evolution of testimony and its increasing weight with the jury. Formerly the jury decided the point at issue from its own knowledge and experience. Owing to the apparent plausibility of the story of both plaintiff and defendant now, the tendency of the average jury seems to be to discredit the testimony of both. The speaker said that the testimony of the expert to have most weight, should be fair, non-partisan, unbiased, and non-argumentative. He favored the idea of the expert being selected and paid by the court. After some discussion a vote of thanks was tendered Mr. De Mange. Those present at the meeting were: Drs. Elder, J. B. Taylor, J. L. and R. G. Yolton, Covington, Chapin, Fulwiler, Hull, Godfrey, Hart, Rogers, A. L. and R. D. Fox, Welch, Sloan, Fenelon, Vandervort, F. Turner, Meyer, J. W. Smith, Howell, Noble, Bath and Rhodes.

Meeting of Tuesday, Dec. 18, 1906.

There was a called meeting of the McLean County Medical Society at the City Hall Tuesday evening, Dec. 18, 1906. The object of the meeting, as stated by President Bath, was to consider any business which had been neglected on account of our regular evenings being occupied by outside speakers.

The question of having our fiscal year coincide with the fiscal year of the state society was brought up and after a free discussion Dr. Chapin moved that a committee consisting of the secretary, councilor of our district, and president of the society, prepare and submit to the society at a regular meeting such changes in regard to the agreement of fiscal years as may seem best to them.

The letter of Dr. McCormack concerning old line life insurance examinations, and for which a committee was appointed at the December meeting to write the *Journal of the A. M. A.*, was discussed and it seemed to be the feeling of those present that the matter should be dropped for the time being. Dr. Bath recommended the investigation of certain advertisers in the city as well as advertisements of various patent preparations in the local papers. Dr. Hull made a motion that the judiciary committee be requested to investigate the several complaints or any other apparent irregularity. Motion prevailed.

Owing to the possibility of a child who has had had an infectious disease, such as diphtheria, communicating the disease to others, for a period varying from a few days to several months, Dr. Rhodes suggested the advisability of the McLean County Medical Society agreeing upon the minimum time at which it should be safe for such a child to return to school after quarantine is removed. Dr. Godfrey made a motion that a committee be appointed to confer with the school board with reference to the length of time which should elapse between the release from quarantine and the time of the patient's return to school and report results of conference to the society. Motion prevailed. The President appointed as such committee Drs. Godfrey and Fenelon.

Those present were: Drs. G. R. Smith, Chapin, Cantrell, Orner, Covington, Elder, N. K. McCormick, Little, Henline, Hull, A. L. Fox, J. W. Smith, R. G. Yolton, J. L. Yolton, Godfrey, Fenelon, Vandervort, Bath and Rhodes.

Meeting of Jan. 3, 1907.

The January meeting of the McLean County Medical Society was held in the parlors of the Illinois Hotel on the evening of Jan. 3, 1907. Dr. Quine, the speaker of the evening, being unable to be present, a company of thirty-five retired to the ordinary for a very enjoyable hour. The following were present: Dr. and Mrs. Rogers, Dr. and Mrs. Frank Turner, Dr. Frank Wakefield and wife, Dr. Fulwiler and Miss Martin, Dr. and Mrs. A. L. Fox, Dr. and Mrs. Lee Smith, Dr. and Mrs. Fenelon, Dr. Little, Dr. Howell and wife, Dr. F. C. McCormick, Dr. and Mrs. Bath, Drs. J. L. and R. G. Yolton, Dr. Curry, Dr. and Mrs. Brown,

Dr. C. M. Noble, Dr. and Mrs. Covey, Dr. and Miss Hart, Drs. Chapin, Jackman, Rhodes, and the following visitors: Dr. J. F. Page, Enreka, Ill.; Dr. Gardner, Bloomington, and F. B. Lovell, Gibson City, Ill.

Meeting of Feb. 7, 1907.

Owing to inability to operate a stereopticon in the Council Chamber of the City Hall, the February meeting of the McLean County Medical Society was held in the Assembly Hall of the Illinois Hotel on the evening of the 7th.

Dr. C. M. Noble reported for the committee which was appointed to confer with the school board regarding the proper length of time a child who has had an infectious disease should be kept out of school. It was the opinion of the committee that two weeks should be the minimum length of time at which the patient or other members of the family should be allowed to return to school after the discharge of said patient by his physician. Report was accepted and committee discharged.

Dr. Ezra R. Larned, of the Experimental Department of Parke, Davis & Co., addressed the society on the "Practical Application of Bacteriology to the Cure of Disease."

His lecture, although in itself very interesting and instructive, was made more impressive by being copiously illustrated by Mr. Loar's stereopticon. Dr. Larned introduced his subject by referring to the marked progress which had been made in medicine and surgery in the last thirty years, being more, probably, than in the preceding 1,000 years. Harvey, with no knowledge of bacteriology, discovered the circulation of the blood. Virchow, with his cellular theory that all cells emanate from cells; Lister, who believed that healing took place better in an atmosphere laden with vapors produced by evaporating carbolic acid and which later led to more advanced methods of antiseptics; Metschnikoff with his phagocytosis theory, which now appears in the form of the opsonic theory or index; Pasteur and his great work in overcoming the silkworm disease, his studies of hydrophobia, his prophecy that acute infectious disease would be traced to a definite cause. Koch, his discovery of the bacillus of tuberculosis, Koch's law of postulates, the discovery of the cholera spirillum; Koch's tuberculin; Klebs and his discovery of the diphtheria bacillus, did not follow Koch's postulates with it, but Loeffler, working independently at about the same time, did; von Behring, his discovery of antitoxin and patenting of same, thus commercializing a product so potent in saving human lives; Kitasato, a co-worker with Behring and equally entitled to the honors of developing the antitoxin of tetanus and who has done much in the study of bubonic plague; Roux, Pasteur's successor, has popularized antitoxin and developed the antitoxin unit; Ehrlich introduced the "side-chain hypothesis," and Fritz von Schaudinn and Hoffmann discovered the *Spirochæta pallida* which, although Koch's postulates have not been fulfilled, seems to be the cause of syphilis; Karl Weigert found that organisms reacted to analin dyes, therefore the various staining methods; Abbe discovered the Abbe condenser and made investigation of the smaller organisms possible; Major Walter Reed, Lazear and James Carroll investigated the cause of yellow fever, Reed lost his life from the disease; Carroll proved that the mosquito, *Stegomyia fasciata*, is necessary to transmit the disease; Obermeier is given credit of discovering the spirillum which bears his name and is regarded as the specific cause of relapsing fever; Marmorek is associated with the antistreptococcal serum; Shiga, who discovered the Shiga bacillus, has revealed the cause of dysentery, but the serum for treating same has thus far proved ineffective.

Dr. Larned then considered the different steps in the process of manufacture of various sera, showing the care necessary and tests, both microscopical and physiological, which must be passed before the product is sent out for use. He referred to Edward Jenner, the discoverer of vaccination, the methods of procedure in preparing the vaccine, spoke of the extreme ease with which the vaccine organism, which as yet has not been isolated, is destroyed by antiseptics. The doctor recommends that the baby be vaccinated as soon as possible. He spoke of

the success in vaccinating against symptomatic anthrax or black leg, the slight encouragement from the use of serum in leprosy, and our comparative ignorance and inability to cope with hydrophobia.

THOMAS W. BATH, *President*.

O. M. RHODES, *Secretary*.

MORGAN COUNTY.

The Morgan County Medical Society held its regular meeting at the Library Feb. 14, 1907, at 8 p. m., President Dr. E. L. Crouch in the chair. Eighteen members present. The application of Dr. E. F. Leonard for membership in the Morgan County Society was read.

Dr. McLaughlin reported a case of a burn affecting one-third of the patient's body, which terminated in a complete recovery with only one or two small scars. In neutralizing the effect of the burn he used soda and caron oil, then cleansed the surface with dioxogen, after which he applied a Saratoga ointment dressing one-fourth of an inch thick, covered this with cotton and held it in place with bandages. This dressing was not removed until the twelfth day, and then only by sections to prevent shock. After the twelfth day Saratoga ointment dressings were applied every other day for six weeks, first cleansing surfaces with dioxogen before applying dressing. Strychnin, 1/60 gr., was given every four hours until effect was produced, then 1/60 gr. with cod liver oil three times a day until recovery. On the fifth day shock occurred, which lasted five days. During this time slow high enemas of a quart of normal salt solution were given every hour, day and night; ice was applied to the pericardium; digitalis was given to quiet the heart. The urine for the first twenty-four hours after shock was eight ounces, for the second twenty-four hours was forty-five ounces, and after the third twenty-four hours remained at 100 ounces for three days, then gradually increased to normal.

Dr. King cited a case of prolapse of portion of bladder and vagina preceding childbirth.

The paper of the evening was by Dr. Wakely on "Preventive Medicine." Discussed by Dr. Adams, who thought there should be some means to prevent the numerous injuries and deaths which follow each 4th of July. He also thought that there should be less blindness if the cases of ophthalmia neonatorum were given the proper treatment in the first stage of the disease. Dr. Black thought that the municipality should attend to the disinfection in cases of contagion. Dr. McGill spoke of the fumigation carried on in St. Louis, and thought that Morgan County should be more careful, as its death rate was very high. Dr. Baxter spoke on the duties of the health warden of Jacksonville and what he has done in the past. Dr. Baker wanted to know who has charge of the health of the citizens of Jacksonville and if it was in charge of one man alone. Dr. Reid stated that it was impossible to find anything on the ordinance of health in the city of Jacksonville.

Dr. J. F. Percy, president of the state society, gave us an interesting talk. He thought the Morgan County Society was a standard society and one to be held up as an example, and in his opinion it is disloyal for a society to elect a delegate with instructions and send him to the state society and then go back on him. He also spoke of the doctors who cut rates and thought that, as a rule, they charged in ratio of what their services were worth. On a motion of Dr. Pitner the society extended its thanks to Dr. Percy for his interesting address.

ALLEN M. KING, M.D., *Secretary*.

PIATT COUNTY.

THE BUSINESS SIDE OF THE PROFESSION.

JOSHUA G. ELLIS, M.D.

CERRO GORDO, ILL.

It is a proverbial fact that physicians, as a rule, are poor business men; but as to why this should be has not been as yet satisfactorily proven. If any man on earth should have a competency to keep him in his declining years, when he

can no longer perform the arduous duties of his calling, it should be the physician. Who is it that sacrifices more of his time—frequently without remuneration—loses his rest and sleep, that was designed by Nature for him, and spends more of his physical and mental force for the benefit of his patrons, than the physician? He is called upon at all hours of the day and night to administer to the wants of his patients and is expected to respond instantly, regardless of the weather, condition of the roads, the health of himself or family or the financial responsibility of his employer.

The physician in general practice, especially the country practitioner, can have no regular office hours, but is expected to answer at any hour in the twenty-four that he might be called. The merchant has his regular hours for work as well as his rules of business, and the public generally expect him to live up to them. Should a customer come in who was of doubtful financial standing and want to purchase goods on credit, the merchant would not hesitate to tell him that it was against his rules to sell goods on time, and the people would commend him for it and say that he did just right. But should the same man call the doctor to see some member of his family and he would refuse to go, because he knew that he was a dead beat and would not pay, the same people who said that the merchant did right in refusing him credit would say what a hard-hearted man the doctor was for not going to see the sick one when by so doing he would not only lose the time, but would stand a chance of losing other patients while gone, who were good. If it is business for the merchant to not favor the dead beat it is also business for the physician not to favor him, and if the physicians would stand together and educate the people as the business men do, we would not have so many dead beats.

If the doctor wishes to buy a horse he is expected to pay the cash for it or give a bankable note, but should he pull a patient through a long and severe spell of sickness he is not expected to ask for the money or a bankable note as soon as the patient is well. Why? Because he has not educated the people.

There is an old saying that "life is what we make it," and it is just so with business. The great trouble with the medical profession is lack of business methods and organization along the right lines. There is, I am sorry to say, a woeful lack of charity and sociable feeling among physicians. We, of all men, should be bound together by an indissoluble tie as we represent the noblest profession of this world. There is no need of physicians being at "loggerheads" with each other, if every one will observe the golden rule, do his duty and be a man. But jealousy, if not carefully watched, will creep in and, I am sorry to say, there is such a thing as a medical hog abroad in the land. We sometimes meet with road hogs—men who are not willing to give half of the road. And so we sometimes see the medical hog, who wants to do all the work of the neighborhood, regardless of fees, ethics or anything else. How much more pleasant the practice of medicine would be if physicians would treat each other as they should and work to their mutual interest and thereby educate the people to respect the profession as they should.

The physicians of this (Piatt) county met in convention at Monticello October 31 last for the purpose of discussing the advisability of making a uniform rate of fees for the county, as our fees have been very low, considering the wealth of the people and the condition of the roads over which we have to travel—especially through the winter season, and the rise in price of the commodities which has obtained in the last eight or ten years. According to Bradstreet and Dunn, the commodities of life as well as medicine and materials that we are compelled to use, have risen from 25 to 100 per cent. more than they were only a few years ago, and the result is that we shall have to increase our fees so as to bring us up to a level with the balance of mankind or else donate the difference to the public—and the Lord knows that the doctor always donates enough anyway. We had a very enthusiastic meeting, ending with a banquet, and everybody was highly in favor of formulating a fee bill, raising the price something like 25 per cent. over the existing rate, which was done and signed

by all the physicians of the county—twenty-eight in number. It was decided to have the fee bill published in the various county papers so that our patrons could see what was done, as we thought it best to acquaint them with the new scale before it was to go into effect, which was Dec. 1, 1906. But when the papers came out such a storm of opposition! The people rose up in their wrath, held an indignation meeting (at this place), passed resolutions against us, circulated petitions with the intent of getting us to come back to the old fees and threatening us with a boycott if we did not. But for some reason best known to them they did not present their petition. The storm has blown over and we are getting better fees and I think their respect for us has moved up several notches. One brother being more weary than the rest deserted our ranks and advertised over his signature that he would go back to the old fees, but we were not surprised at that, as he has always exhibited symptoms of being closely akin to the animal described above. Why is it that men will stand in their own light? And why is it that they are not willing to do anything that will elevate the profession and cause the public to respect it as they should and at the same time do themselves and families justice? I can see no other reason but that described above.

As stated at the outset, I believe the medical profession to be the most honorable of the earthly professions, and the man who will so demean himself as to be a disgrace to it should have his certificate revoked and be relegated to the place where he belongs. The good Book says that a man who will not provide for his household is worse than an infidel, and I think that applies to physicians as well as other people. The business man is respected by everyone—even the dead beat—and I think that the physician who is also a business man will have more respect shown him than if he conducts his business in a loose, slipshod manner, even though he be one of the best of physicians.

SANGAMON COUNTY.

The Sangamon County Medical Society met in the Lincoln Library, Springfield, Ill., Feb. 11, 1907, at 8 p. m., Dr. A. D. Taylor presiding. Dr. Arthur Prince reported a case of gonorrheal ophthalmia treated by a 10 per cent. solution of silver nitrate. Dr. Don Deal read a paper entitled "Indications for the Technic of Prostatectomy." The chair was instructed to appoint a committee to ascertain the number of delinquent members in this society. Drs. A. D. Taylor, C. L. Patton and C. R. Spicer were appointed. The names of Drs. Frank Wheeler and Paul Bain were proposed for membership.

The amendment proposed at the last meeting, "That four be substituted for three dollars in Section 1 and Section 2 of Chapter 5, in the existing by-laws," was adopted. The following resolution was adopted: "Resolved, That our representatives in the legislature be respectfully requested to oppose the passage of Senate Bill No. 21 and House Bill No. 66, providing for the creation of a board of osteopathic examiners." The chair was instructed to appoint a committee of twelve to attend the committee meeting of the Committee on Miscellany of the House of Representatives at the time of reading of the osteopathic house bill. Drs. Nelson, Berry, Griffith, Barker, Spicer, Patton, Tuttle, Arthur Prince and Boycecock were appointed.

The regular monthly meeting was held in the Lincoln Library, Springfield, Ill., at 8 p. m., March 11, 1907, Vice President C. M. Bowcock, presiding. Dr. Ryan gave an informal talk on Gallstones, and showed many interesting specimens. Moved and carried that the Sangamon County Medical Society make a donation of \$3 to the Ensign-Hollister memorial fund. Dr. J. R. Rigg of Mount Pulaski and Dr. Paul Bain were elected to membership. The names of Dr. Salyers and Dr. Boyd of Springfield were presented to the society and the applications referred to the Board of Censors.

The following resolution was adopted: "Resolved, That the Sangamon County Medical Society respectfully petition the members of the House of Repre-

sentatives from this district to use their influence in the passage of House Bill No. 468, and that a copy of this resolution be sent to each member of the house from this district."

VERMILION COUNTY.

The Vermilion County Medical Society met Monday evening, March 11, 1907, in the City Hall, Danville. The committee appointed for the purpose presented the following memorial on the death of our honored member, Dr. Clark Leavitt:

IN MEMORIAM.

We, the members of the Vermilion County Medical Society, should pause and consider. Another brother has fallen by the wayside. Not as one going down in an unequal struggle, weary of the journey of life, but as one rejoicing in the contemplation of his own usefulness. One who drank at the wellspring of knowledge, one ripe in experience and years, one who had filled the measure of life, but still labored in the field.

By the death of our venerable brother, Dr. Clark Leavitt, the community has lost an honored citizen, our profession a shining light, and humanity a friend.

We followed him with measured tread to the cheerless, voiceless city of the dead. He has responded to his last call for aid, he has ministered to his last sufferer, his work is finished and the great physician of the universe has called him home.

To the bereaved wife, daughters and sons, over whom has passed the heaviest billow that rolls life's turbulent sea, we extend our heartfelt sympathy. Words only confuse, yet we beg of you to remember that we admired him for his generosity, respected him for his candor, honored him for his wisdom, and loved him for those most sterling qualities that marked him a man.

S. C. GLIDDEN,
W. A. COCHRAN,
E. B. COOLLEY,
Committee.

On account of severe storm and small attendance the program was set aside for the April meeting. T. E. Walton was elected delegate to the state meeting and R. A. Cloyd as alternate.

E. E. CLARK, *Secretary.*

NEWS OF THE STATE.

Rockford reports a severe epidemic of influenza.

Dr. William J. Butler left for Europe February 23.

Dr. A. W. Davisson has removed to Corpus Christi, Texas.

Dr. Charles E. Donahoo, Hillsdale, is ill with scarlet fever.

On February 27 Jacksonville had seven cases of smallpox.

Dr. Charles Seaton, of Zenobia, has removed to Morrisonville.

Dr. William J. Rideout, Freeport, sailed last week for Europe.

Dr. J. L. Miller, of Chicago, sailed for Europe March 20, 1907.

Dr. Frederick A. Renner has removed from St. Jacob to Benld.

Dr. P. H. Oyler, formerly of Mt. Pulaski, is farming in Arkansas.

Dr. and Mrs. John B. Murray, Chicago, left for a trip to California.

Dr. Alvin N. Keith, Peoria, is suffering from a severe attack of motor aphasia.

Plans are being perfected to erect a hospital at Benld, Macoupin County.

Dr. Marvel Thomas and wife, of Gillespie, are spending the winter in Florida.

Dr. and Mrs. Philip H. Matthei celebrated their fiftieth wedding anniversary March 5.

Dr. and Mrs. Charles P. Small, Chicago, have engaged passage for Naples, sailing June 8.

Dr. Harry B. Bailly, Rockford, was operated on for appendicitis at St. Anthony's Hospital February 13.

Dr. S. J. King, of Pittsfield, has recently purchased property which he will convert into a sanitarium.

The city council of Chicago has recommended a large appropriation for the Health Department of that city.

Dr. P. J. Hoshie Farrell, Chicago, has recovered from his recent serious illness and has resumed practice.

Scarlet fever at the Girls' Home, Geneva, has apparently taken a new start, 41 cases in all having been reported.

Dr. John W. Tope, Oak Park, has broken down from overwork in connection with the new Oak Park hospital.

The case against Dr. Wilbur V. Johnson, charged with assisting in an illegal operation, was dismissed February 15.

Dr. Harney has removed from Auburn to East St. Louis and formed a partnership with Dr. Hart, formerly of Auburn.

Dr. Edmund H. Douglas, of Petroleum, W. Va., has formed a partnership with Dr. J. H. Dickerson, of Taylorville.

Dr. Gottfried Koehler, Chicago, stood at the head of the list as the result of the examination for chief food inspector.

The American College of Medicine and Surgery, Chicago, has changed its name to the Chicago College of Medicine and Surgery.

Dr. Charles E. Ericson has been appointed assistant surgeon at the Soldiers' Home, Quincy, vice George E. Rosenthal, deceased.

Dr. Charles E. Crawford, Rockford, has been appointed by the State Board of Health inspector for the northern district of Illinois.

Dr. John F. Snyder, Monroe Center, was rendered unconscious by being thrown from his buggy in a runaway accident February 24.

Dr. Charles E. Crawford, Rockford, made an inspection of the small-pox epidemic at East Aurora. He found six cases, all of a mild type.

Dr. Arthur D. Bevan, Chicago, chairman of the Council on Medical Education, is taking a trip along the Pacific Coast, visiting medical colleges.

On the evening of March 11 Maude Adams gave a performance of "Peter Pan" for the benefit of the Children's Hospital Society; \$4,500 was realized.

Dr. Ralph T. Hinton, Quincy, has been elected secretary of the Adams County Medical Society, to fill the unexpired term of the late Dr. George E. Rosenthal.

Dr. T. B. Spalding, of Decatur, who is under indictment on the charge of performing a criminal operation, has been arrested and brought back to Decatur.

Dr. James N. Kearney, Lamont, has been appointed a member of the staff of the Illinois Northern Hospital for the Insane, vice Dr. Claude F. Shonts, resigned.

Dr. Walter R. Schussler, of Orland, Cook County, was appointed a member of the State Board of Health on February 27 to succeed Dr. W. Harrison Hipp, deceased.

The Varvil suit for malpractice, in which damages of \$10,000 were sought against Dr. Albert L. Ward, Bement, in the Piatt County Circuit Court, has been dismissed.

Appleton & Co. have recently issued a new and complete catalogue of their medical publications. A copy of this catalogue will be sent to anyone upon receipt of a postal card.

William J. Black, Rockford, charged by the State Board of Health with practicing medicine without a license, did not appear when his case was called March 5, and was fined \$200.

While driving across the railroad track the buggy of Dr. Jay A. Logan, Bartonville, was struck by an engine. Dr. Logan was thrown about twenty feet, escaping, however, with slight injuries.

Dr. H. C. Blankmeyer, of the State Board of Health, has completed his report on the conditions at Springfield. He finds that the wells of the city are the principal cause for 56 cases of typhoid fever.

An appropriation of \$10,000 has been voted by the Chicago Board of Underwriters to endow a room in the Presbyterian Hospital in memory of the late Edward M. Teall, formerly president of the board.

Dr. R. E. Emery, of Peoria, was arrested on a warrant recently, charging him with the murder of Pauline Schneider, 19 years old, who died at St. Francis Hospital as the result of a criminal operation.

At the interne examinations at Cook County Hospital, which began March 11, 111 applicants appeared. The examination continued through three days. The appointment of those who are successful will be made in July.

Dr. J. C. Sanders, of Rock Island, has been appointed medical examiner for the civil service department at the postoffice at Rock Island, Ill. His duties are to issue medical certificates and examine all applicants.

Dr. Elizabeth Matthews, of Springfield, has returned from a trip to the Orient. While on the Indian Ocean, Dr. Matthews had the experience of a fire at sea and was rescued from the burning ship by an English warship.

The Cincinnati Sanitarium has recently issued its thirty-third annual report. The report gives a complete account of medical statistics of the sanitarium and descriptions of its facilities and contains some cuts of building.

It is announced that Andrew Carnegie will contribute \$100,000 toward the building of a new home for the College of Physicians of Philadelphia. The contribution is made on condition that the members of the society raise an equal amount.

Dr. Earl J. Dennis, 182 State street, Chicago, recently entered a plea of guilty before Judge Kersten to the charge of having caused the death of Bertha Johnson, 1210 Penn street. She died last October following an operation performed by Dr. Dennis.

During the week ended March 18 eight cases of smallpox were found in Chicago and the patients sent to the Isolation Hospital. An unvaccinated Pullman car porter on the Rock Island system is said to have been responsible for at least three of these cases.

Dr. W. P. Spratling, superintendent of the New York State Colony for Epileptics, Sonyea, gave an address in the senate chamber, Springfield, February 26, on the colony treatment of epileptics, under the auspices of the Children's Hospital Society, Chicago.

The Friedlander Company has been sued by one John F. Maxwell, a painting contractor, to recover \$25,000 damages, alleged for injuries suffered from an x-ray machine. He says, owing to the negligence of the operator, he was shocked severely and otherwise injured.

Dr. Howard A. Kelly has in hand the preparation of a Cyclopedia of American Medical Biography. Drs. Welsh, Olser, Burrage, Steiner, Packard and others will contribute to the various branches of medicine. No living exponent will be eligible to a place in the work.

During 1906, 2,955 ill and injured persons were given care at the Alexian Brothers Hospital. In addition, treatment was given to 3,050 patients in the sanitarium adjoining the hospital. It is reported that work will begin in April on the front wing of the hospital.

The women of East St. Louis have organized a ladies' auxiliary in the interests of the Henrietta Hospital. The first work which they will undertake will be the erection of a dormitory for nurses, so that the quarters now used for that purpose may be devoted to a children's ward.

The Illinois State Board of Health, in its January and February bulletins, published the full text or abstracts of bills of medical interest before the state legislature, giving also the personnel of the various house and senate committees who held these bills under consideration.

Subscriptions are being solicited for the work of the Chicago Tuberculosis Institute, which wishes to raise \$25,000 for a tuberculosis dispensary, a day camp and a tuberculosis hospital; for the investigation of hygienic conditions of factories, stores and schools and for a lecture course.

Representative Schaeber has introduced a bill in the legislature for an appropriation of \$5,000 for the support of Vincent Ward North, who was born at the Illinois Eastern Hospital for the Insane at Kankakee last year. Katherine Ward, sent to the hospital from Urbana, is the mother.

The Chicago police are searching for Mrs. Kunigundi Hartman, 35 years old, a midwife, who formerly lived at 1578 Miller avenue. Mrs. Ella Brunswick, 24 years old, of 86 Nebraska avenue, recently died as a result of an alleged illegal operation said to have been performed by her.

The Journal of Inebriety and the *Archives of Physiological Therapy* have been consolidated and will hereafter be published as a part of the *Journal of Inebriety*. In the opinion of its managers its scientific value would be greatly enlarged by concentrating its work along some special lines.

Mr. M. A. Lane, formerly of the department of anatomy at the University of Chicago, has taken charge of the histology work at the Turk Institute, Chicago, and Professor Conrad Jacobson, professor of physiologic chemistry at Armour Institute, has accepted the position of food analyst.

Dr. W. S. McClanahan, of Woodhull, Ill., has sold his practice, property, etc., and the purchaser takes possession April 1st. Dr. McClanahan expects to spend the summer recuperating and in post-graduate work, and will not locate before the 1st of September. Until located, his address will be Monmouth, Ill.

During the first week of the ambulance service in Chicago, under the care of the Department of Health, the surgeons treated 60 sick and injured persons, and 226 patients were given first aid, of whom 183 were removed to the hospital and 37 taken home. Two insane persons were cared for and 9 dead bodies removed.

At a meeting of the State Board of Health, March 15, arrangements were made for the annual inspection of the medical colleges of Chicago and Cook County. These examinations are held by the board to ascertain whether or not all the provisions under which they are operating under the state law are being observed.

Dr. Harriet A. Hook, of Chicago, graduate of Rush Medical College, 1905, has taken a position at the Asylum for Feeble-minded Children at Chicago. Since her graduation she has been engaged as junior physician at the Cook County Hospital at Dunning, the Woman's and Children's Hospital at San Francisco, and the state hospital for the insane at Anna.

There have been put upon the market a number of thermometers to be used in cooking, registering heat from 100 to 600 degrees F. By means of this aid, cooking may be reduced to something like an exact method. For the preparation of various foods for the sick and in diet kitchens, their use should become as systematic as that of the clinical thermometer at the bedside.

Dr. Adolph Buettner, of 679 Lincoln avenue, Chicago, has been held to the grand jury by a coroner's jury on a charge of murder. The patient was a Miss Nellie Walsh, who signed a statement on her deathbed in which she accused Dr. Buettner. Dr. Buettner denied having operated on her, but admitted that he had been indicted seven or eight years ago for an illegal operation, but says he had been discharged.

After a fight of a number of years the so-called pharmacy of Dr. Adolph Brendecke, situated at Sangamon and Randolph streets, Chicago, has been closed and his lawyer says is to remain closed. Repeatedly the proprietor of this store has been convicted of selling cocaine and his place of business has been considered a resort for all the dope fiends of the West Side. The police and charitable organizations have been attempting to secure this result for a number of years.

The Chicago Externes' Sanitarium, 4427 Michigan avenue, is erected and equipped with the most approved apparatus for the application of physical therapeutic measures. The patient, not too seriously ill, may obtain all the benefits of a thoroughly equipped institution without being deprived of the guidance of his own medical adviser, without being removed from family and friends, which is not always necessary, and without sacrificing his earning capacity—a very important consideration in many cases.

The Logan County Medical Society held its annual meeting at Lincoln February 21 and elected the following officers: C. E. Rembe, president; first vice-president, C. C. Montgomery; second vice-president, H. M. Van Hook; secretary, H. S. Oyler; treasurer, A. M. Sargent; board of censors, S. Rourke, B. P. Bradburn, J. L. Lowrie; delegate to the state convention, H. S. Oyler; alternate, C. Rembe. Four new members taken into the society were: F. M. Ewing, H. B. Brown, J. R. Rigg and P. H. Leonard.

On January 3 the formal acceptance of the two collections of books presented to the library of the Johns Hopkins Medical School was made, with addresses by Dr. William Osler and Dr. Wm. H. Welsh. The Marbury collection is the old Warrington Dispensary Library of Liverpool, containing 944 volumes of the sixteenth, seventeenth and eighteenth centuries, and is especially valuable for the study of the history of medicine. The Jenks collection is on monstrosities and numbers 936 volumes. It is the Friedrich Ahlfeld Library of Marburg, Germany.

At the annual meeting of the Chicago Medical Examiners' Association, held January 21, the association endorsed the action of the Committee on Medical Legislation of the American Medical Association in advocating the establishment of a national department of health; also the action taken by the council of the Chicago Medical Society protesting

against the passage by the U. S. Congress of bill No. 5221, entitled "An act to regulate the practice of osteopathy in the District of Columbia." The following officers were elected: President, Dr. J. Allen Patton; secretary, Dr. E. Eisenstadt; treasurer, Dr. Ulysses Grim; councilor, Dr. E. L. Hayford.

The new Oak Park Hospital, which is nearing completion after five years' endeavor on the part of Dr. John W. Tope, was opened to visitors March 16. The hospital is in charge of the Sisters of Misericordia, Montreal, Quebec, and was formally dedicated April 3. The building will have cost \$150,000. The operating rooms are two in number and are lighted by large north windows and skylights. The floors are of white tile, and the walls are wainscoted with heavy white plate glass to a height of seven feet. The hospital grounds contain one acre. About \$5,000 additional for the equipment of the surgical department was secured by the physicians of the staff.

The proposed installation of the Formozone Acme system of air cleaning and purifying in the Horace Greeley School, at Grace street and Sheffield avenue, Chicago, is being watched with interest by physicians and educators, for it promises to solve the question of preventing the spread of contagious disease in school buildings. The system is based on the principle that foul air makes the well ill and that pure air makes the ill well. The ventilation at the Horace Greeley School requires the handling of 51,000 cubic feet a minute by fan-blower system. In connection with it it is proposed to install the Thomas Acme cooling system for governing humidity and cooling the air.

In the case of the State Board of Health against Dr. P. C. Bacon, which was tried in the county court, the jury this morning brought in a verdict finding the defendant not guilty. In this case it was attempted to collect a penalty for violation of the medical practice act by producing evidence that Bacon advertised himself as a neurologist and ophthalmologist and professed to cure disease without the use of drugs while he had no license. It could not be shown that he had actually treated anyone. Charles E. Selby, the attorney for the board, insisted that the fact that the defendant professed to cure disease and advertised to treat persons was an offense against the law as much so as if he had actually done so.

At the meeting of the Illinois State Board of Health held in Chicago March 15, 1907, the following resolutions were adopted:

WHEREAS, The members of the Illinois State Board of Health have carefully read and considered the correspondence between the President of the Illinois State Medical Society and the President and Secretary of the State Board of Health, as set forth in communications dated, respectively, Feb. 25 and 27 and March 2, 6, 11 and 14, 1907; and,

WHEREAS, The President of the Illinois State Medical Society purposes that the members of the State Board of Health meet in conference with certain officers of the Illinois State Medical Society; be it

Resolved, That the members of the State Board of Health hereby express a desire to cooperate, in every way, with the Illinois State Medical Society and all other medical organizations of the state, for the good of the people of the state or the betterment of the public health; and be it further

Resolved, That the Secretary of the State Board of Health be directed to extend a cordial invitation to the President, officers of the Illinois State Medical

Society and to the representatives of the Illinois Homeopathic Medical Association, the Illinois State Eclectic Medical Society and the Illinois Physio-Medical Society, to meet with the State Board of Health, in Chicago, at the Great Northern Hotel, on Thursday, April 4, 1907, to confer regarding measures contemplated to improve the public health, to elevate the standards of medical education, to advance the interests of the legally qualified physicians of the state, and to promote a warmer feeling of concord and cooperation between the state medical societies and the State Board of Health.

Pursuant to the above resolutions, the secretary of the State Board of Health sent invitations to the various presidents and officers above named and the following members were present at the meeting in the Great Northern Hotel April 5, 1907:

J. E. Percy, Galesburg; J. W. Smith, Bloomington; C. C. Hunt, Dixon; J. H. Stealy, Freeport; C. E. Black, Jacksonville; C. Barlow, Robinson; L. C. Taylor, Springfield; F. P. Norbury, Jacksonville; H. N. Moyer, Chicago; George N. Kreider, Springfield; E. W. Weis, Ottawa; M. L. Harris, Chicago; R. B. Preble, Chicago; G. E. Baxter, Chicago; J. H. Stowel, Chicago; Hanks, Chicago; Smith, Freeport; R. W. Webster, Chicago; Hazelton, Chicago; N. J. Pollock, Chicago; Sweet, Chicago; Costain, Chicago; W. E. Kinnett, Peoria; J. B. Davis, Pontiac; C. H. Bushnell, Chicago; J. D. Robertson, Chicago; Lewis, Chicago; J. W. Russell, Chicago; Fuller, Chicago; C. L. Mix, Chicago; E. H. Ochsner, Chicago; R. T. Gilmore, Chicago; P. H. Wessel, Moline; J. A. Egan, Springfield; J. C. Sullivan, Cairo.

In the absence of Dr. George W. Webster, president of the State Board of Health, Secretary Dr. J. A. Egan called the meeting to order and Dr. P. H. Wessel was unanimously elected chairman of the conference. Dr. J. A. Egan was elected secretary.

The Illinois State Board of Health invited those present to offer suggestions or criticisms on the administrative policy of the State Board. A very considerable discussion was indulged in and many sharp criticisms offered to the policies of the State Board of Health, resulting in the following formal action of the conference: That, in order to reach definite conclusions and formulate systematic plans of action, various subjects be suggested and committees be appointed to consider them and report at a subsequent meeting, with the exception of the committee on legislative matters, who were instructed to report after recess. The following subjects were voted and the members appointed to consider each subject:

1. Reciprocity, Black, Hazelton, Russell.
2. Medical education in Illinois, Norbury, Sweet, Bushnell.
3. Relation of State Board of Health to local health boards, Stowell, Davis, Kahlke.
4. To investigate methods of conducting examinations of candidates for license and method pursued in connection with administration of medical practice act among unlicensed practitioners, Preble, Costain, Robertson.
5. To promote cooperation between state medical societies and State Board of Health, Harris, Smith (Freeport), Kinnett.
6. Cooperation between schools of medicine, Percy, Hanks, Pollack, Hadley.

NEW INCORPORATIONS.

The Secretary of State, at Springfield, has recently issued licenses to the following new incorporation:

Modern Maccabee Hospital Association, Chicago, to conduct a hospital and training school for nurses; incorporators, J. A. Hynes, E. S. Shaver, Walter C. Williams.

MARRIAGES.

A. MERRILL MILLER, M.D., to Miss Jeannett Penwell, both of Danville, Ill., recently.

O. P. GRANT, M.D., Cantrall, Ill., to Miss Mabel Irene Green, of Chicago, January 9.

CARL P. STRUVE, M.D., South Elgin, Ill., to Miss Jessie Margaret Burns, of Chicago, February 24.

ISAAC EUGENE NERVIG, M.D., to Miss Edna Shadle, both of Sioux City, Iowa, at Harvey, Ill., March 2.

DEATHS.

J. W. MURFIN, M.D., Vernon, Ill., died Feb. 23, 1907.

D. M. RIDER, M.D., formerly a prominent physician of Chandlersville, died recently at his home in Indiana.

WILLIAM H. HODGSON, M.D., Royal College of Physicians, London, 1866, died in Mattoon, Ill., February 18, aged 73.

STEPHEN D. MESERVE, M.D., Miami Medical College, Cincinnati, 1857, died at his home in Robinson, Ill., January 27, aged 80.

OSCAR ROBERT BLUTHARDT, M.D., Rush Medical College, 1886, died at his home in Chicago, March 12, from apoplexy, after an illness of four weeks, aged 55 years.

FRANK W. HOMER, M.D., Hahnemann Medical College and Hospital, Chicago, 1897, of Spokane, Wash., died at his farm on White Bluff Prairie, from nephritis, February, 1907.

PATTERSON LEONARD MCKINNIE, M.D., Rush Medical College, Chicago, 1872, a retired practitioner of Evanston, Ill., surgeon during the Civil War, died at Riverside, Cal., March 3, from heart disease, aged 62.

WM. S. D. JOHNSON, M.D., Medical Department of the University of Missouri, St. Louis, 1850, for many years a practitioner of La Belle, Mo., died at the home of his son in Versailles, Ill., February 22, after an illness of five days, aged 83.

DR. J. B. McDOWELL, of Mason City, Ill., the last survivor of the Mexican War in Mason County, aged 89 years, died March 16. He was 62 years a practicing physician in Mason County, having graduated in 1845 at the Missouri Medical College, St. Louis.

HENRY C. FAULKNER, M.D., Leonard School of Medicine, Medical Department of Shaw University, Raleigh, N. C., 1894, formerly a prac-

tioner of Chicago, but for the last four years a missionary on the West Coast of Africa, secretary of the board of health, Monrovia, Liberia, and city and harbor physician, died from pneumonia Dec. 11, 1906.

EUGENE MARGUERATE, M.D., New York University Medical College, 1859, a member of the State Medical Society, and in 1868 president of the Cook County Medical Society, a surgeon in the Army throughout the Civil War, and one of the best known practitioners of Chicago, died at his home March 7, from cerebral hemorrhage, after an illness of one week, aged 78.

J. D. PATTERSON, M.D., one of the oldest physicians in Illinois, died at Galva, Feb. 6th, of senile debility, aged 87 years. He was graduated from Transylvania College, practiced for a time in Pittsburg, Pa., and in 1851 came to Oquawka, where he lived till the outbreak of the Civil War, where he enlisted as a surgeon. At the close of the war he moved to Galva, where he remained until the time of his death.

DAVID BELL KERR, M.D., University of Virginia, Medical Department, Charlottesville, 1893, who entered the medical department of the United States Navy June 1, 1898, and was commissioned surgeon April 5, 1905, examining surgeon for the Naval Recruiting Station, Chicago, who had a total sea service of six years and five months, died at his home in Chicago, March 19, from cirrhosis of the liver, after an illness of three months, aged 35.

BOOK NOTICES.

TUMORS, INNOCENT AND MALIGNANT, THEIR CLINICAL CHARACTERS, AND APPROPRIATE TREATMENT, by J. Bland-Sutton, F.R.C.S., Surgeon to and Member of the Cancer Investigation Committee of the Middlesex Hospital. Fourth Edition, with Three Hundred and Fifty-five Engravings. Chicago, W. T. Keener & Company, 90 Wabash Avenue. 1907. Price Five Dollars Net. This well known work on tumors has, in less than four years, reached the fourth edition, and practically stands alone as a standard work on the conditions of which it treats. It considers the subject from all sides and is well worth a place in every medical library. Mr. Keener deserves great credit for securing the publication of this standard work.

AMERICAN PRACTICE OF SURGERY, A Complete System of the Science and Art of Surgery, by Representative Surgeons of the United States and Canada. Editors: Joseph D. Bryant, M.D., and Albert H. Bucks, M.D., of New York City. The second volume of this system comprises parts six to ten inclusive and sustains the high character found in the first volume. No student of surgery in America can afford to be without this valuable system. Messrs. William Wood and Company, of New York City, publishers.

NEW MEMBERS OF THE ILLINOIS STATE MEDICAL SOCIETY.

During the month of February the following physicians became members of the Illinois State Medical Society:

COOK COUNTY.

Abbey, Chas. D.
Bacon, M. W.
Dyas, Frederick G.
Friedman, Isaac.
Gregg, Robert S.
Graham, J. A.
Hager, D. S.
Hatterman, Carl.
Hirschfield, S. H.
Johnson, Walker W.
Kneating, R. E.
Kinnaman, Guy C.
Metcoff, S.
Maurits, William.
Parson, G. F.
Ruggles, E. W.
Roberts, Harold H.
Secor, Wm. Lee.
Sears, Heber J.
Tufts, F. S.
Waterman, Sigmar Franklin.
Wayland, Shipley.
Wright, Frank.
Werelius, Alex.

CARROLL COUNTY.

Burton, R. C., Savanna.
Wales, A. H., Lanark.

CHRISTIAN COUNTY.

Douglas, E. H., Taylorville.
Huber, Jacob, Pana.
Lawler, T. A., Taylorville.
Windsor, Bennett P., Mt. Auburn.

CLINTON COUNTY.

Gissy, G. A., New Baden.

DUPAGE COUNTY.

Langhorst, Henry F., Elmhurst.

FULTON COUNTY.

Putman, H. C., Canton.

HENDERSON COUNTY.

Harter, I. F., Stronghurst.

HENRY COUNTY.

Mannon, J. H., Kewanee.

JO DAVIESS COUNTY.

Cottral, H. C., Hanover.
Renwick, J. C., Warren.

JACKSON COUNTY.

Etherton, J. C., Murphysboro.
Lee, A. M., Deming.

LASALLE COUNTY.

Corbus, J. C., Mendota.

MACOUPIN COUNTY.

Bartlett, A. T., Cullman.

MARION COUNTY.

Mal, H., Salem.

OGLE COUNTY.

Moore, E. B., Kings.

SHELBY COUNTY.

Cherry, T. Ewing, Cowden.
Eddy, W. J., Shelbyville.
Monroe, H. E., Shelbyville.

ST CLAIR COUNTY.

Little, R. M., East St. Louis.
Lippert, J., East St. Louis.
Smith, Harvey S., East St. Louis.

VERMILION COUNTY.

Allison, O. W., Catlin.
Dice, H. F., Ridgefarm.
Hinshaw, D. C., Ridgefarm.
James, J. M., Henning.
Nebeker, E. F., Danville.
Tennery, N. F., Danville.
Turner, J. W., Catlin.

WASHINGTON COUNTY.

Estel, Dr., Venedy.
Green, George, Hoyleton.
Obert, Wm., New Minden.
White, J. F., Richview.

WABASH COUNTY.

Manley, R. S., Mt. Carmel.

ILLINOIS STATE MEDICAL SOCIETY

SECTION OFFICERS AND COMMITTEES.

SECTION ONE.

C. W. Little, E. St. Louis.....Chairman
 Ralph W. Webster, 100 State St., Chicago...
Secretary

SECTION TWO.

E. H. Ochsner, 710 Sedgwick, St., Chicago.
Chairman
 H. W. Chapman, White Hall.....Secretary

COMMITTEE ON PUBLIC POLICY.

Robert B. Preble, Chairman.
 Carl E. Black, Jacksonville.
 J. W. Pettit, Ottawa.
 The President and Secretary, ex-officio.

COMMITTEE ON MEDICAL LEGISLATION.

L. C. Taylor, Springfield.
 M. S. Marcy, Peoria.
 J. V. Fowler, Chicago.
 The President and Secretary, ex-officio.

COMMITTEE ON MEDICAL EDUCATION.

Frank P. Norbury, Jacksonville.
 J. F. Percy, Galesburg.
 C. L. Mix, Chicago.

COMMITTEE ON SCIENTIFIC WORK.

The Section Officers.
 The President and Secretary.

COUNTY SOCIETIES.

This list is corrected in accordance with
 of going to press. County secretaries are
 changes or errors.

Adams County.

J. M. Grimes, Pres.....Camp Point
 George E. Rosenthal, Secy.....Quincy
 Alexander County.

Samuel B. Cary, Pres.....Calro
 J. T. Walsh, Secy.....Calro

Bond County.

John W. Warren, Pres.....Greenville
 J. C. Wilson, Secy.....Greenville

Boone County.

R. W. McInnes, Pres.....Belvidere
 R. B. Andrews, Secy.....Belvidere

Brown County.

S. J. Willson, Pres.....Versailles
 F. E. McGann, Secy.....Mt. Sterling

Bureau County.

J. C. White, Pres.....Seatonville
 O. C. Flint, Secy.....Princeton

Calhoun County.

I. S. Berry, Pres.....Batchtown
 Stephen Platt, Secy.....Hardin

Carroll County.

G. W. Johnson, Pres.....Savanna
 H. S. Metcalf, Secy.....Mt. Carroll

Cass County.

C. M. Hubbard, Pres.....Virginia
 J. A. McGee, Secy.....Virginia

Champaign County.

C. M. Craig, Pres.....Champaign
 C. D. Gulick, Secy.....Urbana

Clark County.

Geo. T. Rowland, Pres.....Martinsville
 L. J. Wler, Secy.....Marshall

Clay County.

W. E. Burgett, Pres.....Louisville
 C. E. Duncan, Secy.....Flora

Christian County.

J. J. Conner, Pres.....Pana
 D. D. Barr, Secy.....Taylorville

Clinton County.

T. E. Alsop, Pres.....Carlyle
 C. H. McMahan, Secy.....Carlyle

Coles County.

N. C. Iknayan, Pres.....Charleston
 O. M. Ferguson, Secy.....Mattoon

Cook County—Chicago Medical Society.

G. W. Webster, Pres.....Chicago
 R. T. Gilmore, Secy.....Chicago

Crawford County.

F. Dunham, Pres.....Robinson
 H. N. Rafferty, Secy.....Robinson

Cumberland County.

G. E. Lyon, Pres.....Robinson
 Will L. Smith, Secy.....Toledo

DeKalb County.

J. A. Badgley.....De Kalb
 C. H. Mordoff, Secy.....Genoa.

De Witt County.

J. M. Wilcox, Pres.....Clinton
 A. E. Campbell, Secy.....Clinton

Douglas County.

E. S. Allen, Pres.....Arcola
 Walter C. Blafne, Secy.....Tuscola

Du Page County.

(Affiliated with Cook County.)

Edgar County.

W. S. Jones, Pres.....Redmon
 W. H. Ten Broeck, Secy.....Paris

Edwards County.

W. E. Buxton, Pres.....Samsblon
 J. H. Lacey, Secy.....Albion

Elliham County.

T. J. Dunn, Pres.....Dieterich
 C. F. Burkhardt, Secy.....Watson

Fayette County.

H. D. Smith, Pres.....Vandalia
 A. L. T. Williams, Secy.....Vandalia

Franklin County.

A. G. Orr, Pres.....Benton
 W. H. Smith, Secy.....Benton

Fulton County.

T. R. Plummer, Pres.....Farmington
 D. S. Ray, Secy.....Cuba

Gallatin County.

I. A. Foster, Pres.....New Haven
 J. W. Bowling, Secy.....Shawneetown

Greene County.

H. W. Chapman, Pres.....Whitehall
 H. A. Chapin, Secy.....Whitehall

Grundy County.

W. E. Walsh, Pres.....Morris
 H. M. Ferguson, Secy.....Morris

Hamilton County.

I. I. Hall, Pres.....Broughton
 G. N. Lyons, Secy.....McLeansboro

Hancock County.

S. M. Parr, Pres.....Fountain Green
 Wm. Blender, Secy.....Carthage

Hardin County.

F. M. Fowler, Pres.....Ellzabethtown
 R. H. Willingham, Secy.....Elizabethtown

Henderson County.

I. F. Harter, Pres.....Stronghurst
 Ralph Graham, Secy.....Biggsville

Henry County.

J. E. Westerlund, Pres.....Cambridge
 H. W. Waterous, Secy.....Galva

Iroquois-Ford District.

D. W. Miller, Pres.....Glman
 Robt. Lumley, Secy.....Watseka

Jackson County.

O. B. Ormsby, Pres.....Murphysboro
 W. C. Hill, Secy.....Murphysboro

Jasper County.

H. S. Ifinman, Pres.....Newton
 Jas. P. Prestley, Secy.....Newton

Jefferson County.

J. H. Mitchell, Pres.....Mt. Vernon
 J. R. Whitlock, Secy.....Mt. Vernon

Jersey County.

A. K. Van Horne, Pres.....Jerseyville
 H. R. Bohannan, Secy.....Jerseyville

Jo Davless County.

E. M. Bench, Pres.....Galena
 D. G. Smith, Secy.....Elizabeth

- Johnson County.
H. D. Larue, Pres. New Burnside
H. O. Williams, Secy. Belknap
Kane-McHenry District.
J. F. Bell, Pres. Elgin
G. S. Allen, Secy. Aurora
Kankakee County.
B. F. Uran, Pres. Kankakee
A. S. Kenega, Secy. Kankakee
Kendall County.
T. B. Drew, Pres. Oswego
R. A. McClelland, Secy. Yorkville
Knox County.
J. H. Brown, Pres. Rlo
G. S. Bower, Secy. Galesburg
Lake County.
E. H. Pomeroy, Pres. Highland Park
A. C. Haven, Secy. Lake Forest
La Salle County.
F. A. Wiley, Pres. Earlville
W. A. Pike, Secy. Ottawa
Lawrence County.
B. F. Hockman, Pres. Sumner
C. P. Gore, Secy. Lawrenceville
Lee County.
C. H. Ives, Pres. Dixon
S. W. Lehman, Secy. Dixon
Livingston County.
G. C. Lewis, Pres. Fairbury
John Ross, Secy. Pontiac
Logan County.
L. L. Leeds, Pres. Lincoln
H. S. Oyler, Secy. Lincoln
McDonough County.
J. B. Bacon, Secy. Macomb
McHenry County.
(See Kane-McHenry District.)
McLean County.
Thos. W. Bath, Pres. Bloomington
O. M. Rhodes, Secy. Bloomington
Macon County—Decatur Medical Society.
C. Chenowith, Pres. Decatur
M. W. Fitzpatrick, Secy. Decatur
Macoupin County.
J. M. English, Pres. Gillespie
J. P. Matthews, Secy. Carlinville
Madison County.
G. W. Hinchee, Pres. Mors
E. W. Fiegenbaum, Secy. Edwardsville
Marion County.
J. E. Schoonover, Pres. Salem
W. W. Murfin, Secy. Patoka
Marshall County.
J. W. Potts, Pres. Lacon
J. A. Swem, Secy. Henry
Mason County.
H. H. Hanley, Pres. Havana
A. L. Cook, Secy. Mason City
Massac County.
M. H. Trovillion, Pres. Metropolis
A. C. Ragsdale, Secy. Metropolis
Menard County.
A. L. Britten, Pres. Athens
Irving Newcomer, Secy. Petersburg
Mercer County.
V. A. McClanahan, Pres. Viola
I. E. Burtnett, Secy. Joy
Monroe County.
Otto Kuehn, Pres. Burksville
L. Adesberger, Secy. Waterloo
Montgomery County.
P. M. Kelly, Pres. Litchfield
H. F. Bennett, Secy. Litchfield
Morgan County.
Josephine Milligan, Pres. Jacksonville
David W. Reid, Secy. Jacksonville
Moultrie County.
W. E. Stedman, Pres. Sullivan
F. P. Zerfass, Secy. Sullivan
Ogle County.
J. A. Johnston, Pres. Byron
F. W. Mitchell, Secy. Leaf River
Peoria City Medical Society.
B. M. Stephenson, Pres. Peoria
J. H. Bacon, Secy. Peoria
Perry County.
W. L. McCandless, Pres. Pinckneyville
J. W. Smith, Secy. Pinckneyville
- Platt County.
W. F. Matson, Pres. Monticello
B. L. Barker, Secy. White Heath
Pike County.
J. D. McKinney, Pres. Barry
K. H. Main, Secy. Barry
Pope County.
Jas. Dixon, Pres. Hartsville
W. A. Sim, Secy. Golconda
Pulaski County.
Monroe, Doty, Pres. Grand Chain
A. W. Tarr, Secy. Grand Chain
Putnam County.
G. A. McCormick, Pres. Hennessee
R. G. Dakin, Secy. Magnolia
Randolph County.
C. G. Smith, Pres. Red Bud
A. D. Steele, Secy. Chester
Richland County.
H. T. Watkins, Pres. Olney
E. H. Horner, Secy. Olney
Rock Island County.
F. H. Gardner, Pres. Moline
Ralph Dart, Secy. Moline
St. Clair County.
Hugo Wangelin, Pres. Belleville
J. W. Twitchell, Secy. Belleville
Saline County.
J. R. Baker, Secy. Harrisburg
Sangamon County.
R. D. Barry, Pres. Springfield
E. R. Spicer, Secy. Springfield
Schuyler County.
A. W. Ball, Pres. Rushville
W. F. Harvey, Secy. Rushville
Scott County.
J. W. Wels, Pres. Manchester
J. P. Campbell, Secy. Winchester
Shelby County.
W. L. Eddy, Pres. Shelbyville
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ORIGINAL ARTICLES

THE TREATMENT OF ACUTE MASTOIDITIS, DUE TO SCARLET FEVER, DIPHTHERIA AND INFLUENZA.

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CHICAGO.

The prevailing epidemics of influenza, scarlet fever and diphtheria in Chicago afford an opportune time for the discussion of the treatment of the most common and destructive sequelæ of these and other exanthematous diseases. I will not enter into a discussion of the etiologic relation scarlet fever, diphtheria and influenza occupy in the production of acute mastoiditis, as this is generally understood and admitted. Nor will I discuss the technique to be adopted in the surgical treatment of mastoiditis, but will limit my remarks to the non-surgical treatment. This is done with a view of stimulating the general practitioner to adopt rational and effective methods of curing this disease before surgical intervention becomes necessary. Nor will I discuss the diagnosis further than to state that nearly every case of acute otitis media is complicated by a similar inflammatory process in the mastoid antrum and mastoid cells, if such cells are present. The mastoid antrum is present at birth, while the mastoid cells are not usually fully developed until about the age of puberty, and in some cases at a later period. In view of these facts, mastoiditis should be tentatively diagnosed in every case of acute otitis media whether marked tenderness, swelling and redness of the mastoid process are present or not. When mastoid inflammation is obviously present the destructive process may have already progressed to the point where an operation is imperative. Indeed, if a careful examination is made in the early stage of acute otitis media by pressure over the mastoid antrum just behind and above the external auditory meatus, tenderness will be elicited in many cases, even though swelling and redness of the skin are absent. Swelling and redness of the soft tissues covering the mastoid process only appear when the inflammatory process has resulted in a blocking of the secretions from great swelling of the mucous membrane of the antrum and mastoid cells, whereas tenderness over the mastoid antrum may be present before extensive changes or blockage have occurred. It is in this

stage of mastoiditis that curative measures may be adopted with almost certain assurance of complete success. I, therefore, urge the importance of making pressure over the mastoid antrum as a routine practice in children affected with earache or other signs of acute otitis media, especially if they have been recently affected with scarlet fever, diphtheria or any other type of infectious disease. The bacteria and toxins of scarlet fever, diphtheria and influenza are especially destructive when they invade the middle ear and pneumatic spaces of the mastoid. Hence it is of more than usual importance that the middle ear and mastoid process be constantly watched for the earliest signs of inflammation, both during the progress and for some time after the subsidence of either of these diseases. By following such a procedure most of the cases of otitis media and mastoiditis may be aborted without resorting to either the incision of the eardrum or to the mastoid operation. It is true that the onset of mastoiditis is sometimes so sudden and so rapidly destructive that operative measures can not be avoided. It is also true that many of the cases which apparently belong to this class could be detected by the attending physician if he made it a routine practice to make daily examination of the eardrum and the mastoid process. Such a practice is especially urged in the case of infants and young children, as they can not or do not give utterance to the distress present within these regions, whereas older patients will do so.

Without further discussion of the symptoms and diagnosis of acute mastoiditis I will direct your attention to the mastoid inflammation, its nature and the measures to be adopted for its cure.

Inflammation.—It will clear the understanding of the treatment if the process of inflammation is first properly presented.

According to Professor Adami, in Keen's System of Surgery, Vol. I, inflammation is a reaction excited by certain bacteria and their toxins in the tissues, though it may be due to trauma, chemical irritants, etc. The reaction is Nature's effort to destroy the invading bacteria and their toxins. That is, the forces of the cells are aroused and marshaled to defeat a foreign foe which threatens their physiological and anatomical integrity. Adami says that the reaction of acute inflammation is characterized by three essential processes, namely, increased hyperemia, increased cell nutrition and increased migration of leucocytes. The increased hyperemia provides the extra-nutrition of the cells, while the increased migration of leucocytes is for the purpose of destroying the pathogenic bacteria and the broken down cells of the tissues. The disposal of the débris and the toxins is still further provided for by the excretory organs of the body, notably the intestines, liver and kidneys. Adami also states that the reaction of inflammation assumes one of the three types, namely: (a) Inadequate reaction, (b) adequate reaction, (c) excessive reaction.

Ordinarily inadequate reaction is present in acute inflammations. By inadequate reaction he means that the hyperemia or blood flow through the affected tissues is inadequate or insufficient to meet the extra nutritional demands arising on account of the extra stress required to combat the invading bacteria and their toxins; and the increased migration of

leucocytes is inadequate to dispose of the rapidly increasing horde of bacteria and the cell detritus. Inasmuch, therefore, as the aroused forces of Nature are inadequate to meet the newly imposed burdens, it follows that the therapeutic indications are to promote or add to Nature's efforts to dislodge the invading host; that is, the physician should adopt such remedial measures as will increase the hyperemia, the cell nutrition and the local migration of leucocytes.

I fear that many misapprehend the reaction of inflammation, believing it to be a vicious process which should be abated rather than increased. They mistake some of the results of inflammation for inflammation itself, whereas the essential reaction of inflammation is an emergency physiological process, which, if properly promoted or augmented, quickly disposes of the irritant noxa and relieves the patient of all distressing symptoms.

In planning the treatment of acute inflammation bear in mind, therefore, the following facts:

1. That the inflammatory process is Nature's effort to rid the affected tissues of an irritant and noxious micro-organism.
2. That the reaction of inflammation is usually inadequate for the purpose.
3. That being inadequate, the reaction should be promoted by suitable therapeutic measures.
4. That when the reaction of inflammation is thus promoted during the early stage of the disease the distressing symptoms and destructive processes quickly disappear.

The speed with which the symptoms and destructive processes disappear under certain therapeutic measures has given rise to the false conclusion that the remedy diminished the inflammatory reaction, whereas, as a matter of fact, it increased it and enabled the body tissues to destroy or render innocuous the bacteria and their toxins, after which the inflammatory reaction subsided, as there was no longer any excuse for its existence.

In times of peace a country needs few soldiers and comparatively little food and ammunition for them. In times of war many soldiers and much food and ammunition are needed. The army needs promotion, to be increased, and, if sufficiently increased, quickly repels the encroachments and devastations of the invading enemy. If the uprising of the army in the presence of the enemy were regarded as a thing to be repressed, the battle, the reaction, would be prolonged or else destruction would surely follow. So in the combat waged between bacteria and the living cells of the body; the reaction of cellular activity should be encouraged if a speedy cure is desired. In other words, the way to check acute inflammation is to increase it. By so doing the disease or noxious irritant may be overcome in from a few hours to a few days.

The Promotion of Inflammatory Reaction.—Having thus briefly discussed the reaction of inflammation, and shown that it is usually inadequate to meet the special stress incident to the invasion of bacteria, let us turn our attention to the various means at our command for aug-

menting or promoting it; that is, *how may we increase the hyperemia, the cell nutrition and the leucocytosis?*

Various means have long been employed for these purposes in combating inflammations of the mastoid process. While some of them have been used empirically, they have been based upon the soundest principles, as shown by the results obtained. Among the methods employed with success are, (a) leeching behind and in front of the ear, (b) counter-irritation behind the ear. (c) heat applied over the mastoid process and in the external auditory meatus, (d) dry and wet cupping over the mastoid process, (e) diaphoresis by the internal administration of drugs and by hot foot baths, wrapping in warm blankets, etc. Each of these methods of treatment increases the hyperemia, cell nutrition and the migration of leucocytes; that is, they promote the reaction of inflammation and aid Nature in ridding the tissues of the noxious bacteria, their toxins and cell detritus. The elimination of the toxins has also been promoted by the administration of cathartics, especially the salines.

Unfortunately, in recent years, these well-known and successful modes of treatment have been much neglected to the detriment of the patient. When I ask the family physician what remedies he has used, a common reply is "the peroxid of hydrogen," or some other aqueous solution of oxygen. These proprietary remedies have been so persistently urged upon his attention for suppurative inflammations that he instinctively resorts to their use, to the neglect of other remedies or modes of treatment of infinitely more value. The oxygen preparations do not promote the reaction of inflammation, but, on the contrary, if used in too strong solution, reduce it and thereby do harm. It has long been shown that pathogenic bacteria are not successfully combated by remedies acting directly upon them, but by remedial measures that promote cellular nutrition and the migration of leucocytes. Hence our attention should be given to the latter class of therapeutic measures.

Before discussing the measures for the promotion of the reaction of inflammation I wish to call attention to the local use of ice over the mastoid process. This has been a favorite mode of treating acute mastoiditis for many years and has until recently had the sanction of nearly all leading aurists. Recently a number of aurists have abandoned its use, declaring that it often masks the symptoms without stopping the destructive process. Cold undoubtedly diminishes the reaction of inflammation; that is, it lessens the hyperemia, cell nutrition and migration of leucocytes, all of which thwarts Nature's efforts to combat the pathogenic bacteria and their noxious toxins. On the other hand, it should be said that cold checks the growth of the bacteria, though probably not to the same extent it retards the reaction of inflammation. There is still another word to be said concerning the use of ice in mastoiditis before condemning it as a remedy. It reduces the hyperemia and swelling of the mucous membrane of the mastoid cells, antrum and aditus ad antrum and thus promotes free drainage of the secretions. It is a physio-pathologic law that when the secretion from a cavity lined by mucous membrane is blocked the growth of infective bacteria is favored. The problem in this region is, therefore, a complicated one, and all the facts must be

taken into consideration before arriving at a correct conclusion. If, for instance, there is scanty discharge with great mastoid tenderness, the secretions are probably blocked, or obstructed, and ice might well be used until the obstruction disappears, after which it should be immediately discontinued and measures instituted that will increase the hyperemia, cell nutrition (cell resistance) and migration of leucocytes. If the discharge is free and unattended by severe pain, except upon pressure, ice is contraindicated, whereas local heat, leeching, etc., are indicated. There is still one more fundamental fact that should be presented before entering upon the consideration of the technique of treatment, namely, the definition of acute inflammation and of chronic inflammation.

According to Adami, acute inflammation is characterized by the following reactions: (a) Increased passive hyperemia, (b) increased cell nutrition, (c) increased migration of leucocytes. Other conditions, as pain, exudation, etc., may be present, but they are not essential parts of the reaction of inflammation, but are results of inflammation. Chronic inflammation is characterized by the following reactions: (a) Slight passive hyperemia, (b) slight increase in the migration of leucocytes, (c) the proliferation of fixed cells. In chronic inflammation the irritant is mild and long continued, whereas in acute inflammation the irritant is powerful and of short duration. Chronic inflammation is characterized by the deposit of new tissue cells, usually the least differentiated or connective tissue cells, whereas acute inflammation is not characterized by the deposit of permanent cells, but by their destruction. The question naturally arises as to when the infiltration ceases to be acute and when it becomes chronic in type. The differentiation is not easily defined or clinically recognized. From a histologic or pathologic point of view it ceases to be acute when the irritant is mild and manifests a tendency to be prolonged. If the bacteria and their toxins are completely destroyed by the reaction of acute inflammation, resolution occurs, and, if the bacteria and their toxins are not destroyed by the leucocytes, a certain type remains and causes slight irritation, and chronic inflammation is thus established. Just how to determine when either of these terminations is present in a given case is a difficult problem for the clinician. Acute inflammation, according to Adami, is usually attended by purulent discharge, whereas chronic inflammation is not, but is attended by an increase in connective tissue cells. According to this view, those cases of prolonged purulent mastoid and middle-ear discharge should be regarded as of the acute type except where there is also an increase in the fixed tissue cells, in which event the inflammation is of a mixed type. As a matter of fact, we frequently find acute exacerbations complicating chronic inflammation with proliferation of connective tissue cells. When a bacteriologic examination shows staphylococci preponderating in the secretions, the disease may be regarded as having assumed the chronic type.

Chronic inflammation is typically illustrated in chronic granulomata, a tuberculosis, syphilis, actinomycosis, etc. Giant cells are present in chronic inflammatory tissue and are absent in acute inflammatory tissue.

I am well aware that the definition of acute and chronic inflammatory processes is opposed to the commonly accepted view in regard to these conditions, but from a therapeutic point of view they hold true. That is, so long as there is purulent secretion unattended by cell proliferation the disease is amenable to treatment by such modalities and remedies as will increase the reaction of inflammation, and when destruction of tissue and purulent secretion are absent, or if present and staphylococci predominate and the proliferation of fixed cells is present, the case is chronic and responds very imperfectly to these modes of treatment.

The Technique of Treatment.—Having determined that acute mastoiditis is attended by inadequate reaction, and that certain therapeutic measures promote the reaction of inflammation, it remains to outline the technique to be adopted in the application in this disease. In selecting the modality or remedy, due regard must be given to the following conditions:

a. The pneumatic spaces of the temporal bone form an intricate labyrinth with many constricted passages and are, therefore, easily obstructed.

b. The pneumatic spaces are lined with mucous membrane which is encased in dense bony tissue; hence only moderate latitude is allowed for the swelling of the mucous membrane.

c. The tympanic cavity contains the delicate mechanism for the transmission of sound waves to the cochlea; hence the importance of early and prompt measures to prevent damage to this physiological mechanism.

d. The modality or remedy should be of such a nature as to act with energy and promptness to prevent injury to the physiological mechanism of the middle ear.

The Ice Bag.—The ice bag or the Leiter coil is sometimes indicated when there is scanty discharge attended by severe pain over the mastoid process. As cold diminishes the reaction of inflammation, which is so necessary to destroy the infective bacteria, it should only be used long enough to reduce the swollen mucous membrane and establish a free discharge of the purulent secretion. To use it beyond this point leads to further destruction of the tissues and imperils the conduction apparatus of the tympanic cavity. The old practice of applying ice for 48 hours to reduce the inflammatory reaction is reprehensible. It is rare that it need be applied longer than 2 hours, as it will reduce the swollen membrane in that time if it will do it at all.

To recapitulate: (a) Cold is only indicated when there is scanty secretion attended by severe pain, and it should be discontinued as soon as free drainage is established, and if at the end of two hours no results are obtained it should be discontinued anyway.

(b) If possible avoid the use of cold in acute mastoiditis, as it decreases the reaction of inflammation and thus thwarts Nature's efforts to destroy the bacteria and their toxins.

Local Heat.—Heat is indicated in mastoiditis, as it promotes the reaction of inflammation. After the ice has established the drainage of the secretions, heat may be substituted for it, as it promotes the reaction

of inflammation and thus enables the tissues to successfully cope with the bacteria, toxins and cell detritus. Heat may be applied by the use of cloths wrung out of hot water, a water bottle, an electric pad, a Japanese stove, a hot air machine, incandescent lamp, etc. Under most conditions the hot water bottle is the most convenient mode of application, as every house is provided with one. It should be applied over the mastoid process with a thin woolen cloth intervening between it and the skin to prevent burning. The other means of applying heat are not so available as the hot water bag and time will not be taken to discuss them.

Leeching.—This old and well-tried method of promoting the reaction of inflammation has almost ceased to be practiced. Leeching is, perhaps, the most effective non-surgical measure for the relief of acute mastoiditis known. Indeed, I believe that those cases wherein ice seems to be indicated, a half-dozen leeches will often accomplish a great deal more in a much shorter time. Leeching lessens the constriction of the veins and promotes a more rapid and increased flow of blood through the inflamed tissues. Cell nutrition is increased, the resistance raised, and the migration of leucocytes promoted. The reaction of inflammation is promoted in an ideal manner. As a consequence the local growth of bacteria is diminished, their toxins are also diminished and the dead cells of the body are disposed of. The stimuli causing the reaction of inflammation being removed, it rapidly subsides and a cure is effected. A half-dozen leeches should be applied, two in front of the anricle and four over the mastoid process, and they should be allowed to remain in position until they fall off.

Wet Cupping or Artificial Leeching.—While I do not like artificial leeches as well as the natural ones, I nevertheless recognize their convenience, as an outfit can be kept constantly on hand for the purpose. The outfit consists of an apparatus for incising the skin and an exhaust cup for drawing the blood. This may be applied repeatedly over the mastoid and in front of the tragus until an ounce or more of blood is removed. The reaction of inflammation is thereby increased, the bacteria, toxins and dead cells removed, and resolution favorably influenced.

Incisions.—Incisions over the mastoid and of the eardrum promote the reaction of inflammation and, therefore, exert a favorable influence upon the infectious process. Incision of the eardrum also facilitates drainage of the secretions and may thus prevent pressure necrosis from retention. The idea that incision depletes the inflamed tissues and thus reduces the inflammation is erroneous. On the contrary (barring the momentary depletion), incision is followed by increased hyperemia and leucocytosis, and herein lies its chief therapeutic value. If in addition to the promotion of the reaction of inflammation the incision liberates retained secretions, it exerts a double therapeutic effect.

Incision as applied in mastoiditis is practically limited to the eardrum, though spontaneous perforation is often present before the condition is diagnosed. If pain is still present it is sometimes advantageous to enlarge the perforation by incision. The incision should be more

than a mere puncture or paracentesis, as this inadequately provides for drainage and does little toward promoting the reaction of inflammation. A free incision provides for both. The incision of the eardrum should be made in the most accessible portion, usually the posterior half, and should be eurved and extend the whole diameter of the membrane. The curve makes the flap on the coneave side loose and free from tension and thus facilitates drainage.

Wild's incision over the mastoid process is quite similar to the one ordinarily used in simple mastoid operations. Formerly it was often used in mastoiditis with redness and swelling, but for several years it has been limited to subperiosteal abscess of the mastoid process. It is not recommended as a mode of treatment in aeute mastoiditis, as the scarring is out of proportion to the good effects produced. Equally good, if not better, effects follow leeching, wet cupping, heat, etc., without the disfigurement of the more extensive ineision.

Radiant Energy.—My experience with radiant energy is praectically limited to light produced by a 500 e.p. incandescant lamp. Roughly speaking, its therapeutie energy is in the red and yellow rays, or heat rays, and in the blue-violet or chemieal rays. Clinically, I have demonstrated to my own satisfaction that a low eandle power lamp (32 e.p.) does not accomplish the same results as a 500 c.p. lamp. For example, I have used the 32 c.p. lamp for the relief of a toothache for 30 minutes without appreeiable result, whereas the toothache promptly disappeared under the 500 e.p. lamp. The heat used was to the point of toleration with each lamp; hence I conclue the 500 c.p. lamp gave off other forms of radiant energy than heat. The spectroscopie shows the 32 c.p. lamp praectically devoid of blue-violet rays, while with the 500 e.p. lamp these rays occupy more than half the screen. I also know that these rays have small penetrating power; hence the effect may be due to the volume or quality of energy of the heat rays from the 500 c.p. lamp.

The lamp should be applied at a distance of about 18 inches for from 20 to 30 minutes. Great hyperemia of the skin follows. To preserve the hyperemia, that is, to prolong the reaction thus produced, the parts should be immediately wiped with a towel wrung out of ice water. This procedure is based upon a well-known hydrotherapeutie principle. After a hot bath the "glow of the skin" is perpetuated by a cold shower bath or dash of cold water. The treatment with the 500 c.p. lamp should be given two to four times daily, according to the symptoms and the results obtained. If the hot water bottles, electric pad or other heating device is employed to excite the reaction of inflammation the parts should be mopped with an ieed towel following the applications. In this way the reaction or hyperemia and attending leucocytosis are maintained.

Bier's Treatment.—Bier's treatment as applied to the mastoid inflammation consists in plaeing the Esmarch elastic bandage around the neck of the patient with just enough constriction to produce slight cyanosis of the face. If pain or great discomfort attends its use it should be readjusted or discontinued. It should be applied for 4 hours and then

discontinued for two hours, and so on for the twenty-four hours, the constriction being used sixteen out of the twenty-four hours. The foot of the bed should be raised and other remedial measures used as the judgment of the attending physician dictates. The principle of Bier's treatment, as is well known, is to promote passive hyperemia, increase the cell nutrition and the migration of leucocytes; that is, promote the reaction of inflammation.

Constitutional Remedies.—Calomel and saline cathartics should be administered to increase the elimination.

CONCLUSIONS.

a. The reaction of inflammation consists of an increased hyperemia, increased cell nutrition (increased resistance) and an increased migration of leucocytes.

b. The reaction of inflammation is an increased physiological activity for the purpose of eliminating certain noxious irritants, notably bacteria and their toxins, from the tissues.

c. In acute inflammations the reaction of inflammation is usually inadequate to accomplish the destruction of the bacteria and their toxins within a short time.

d. The reaction being inadequate, it should be promoted, and experience has shown such promotion to be effective.

e. In acute otitis media, incision of the eardrum promotes the reaction of inflammation in the quickest and surest way, and thus often prevents destructive processes of this important organ. Incision also provides for adequate drainage, and thus favors the elimination of the bacteria and raises the resistance of the tissues.

f. In acute mastoiditis, leeching (in addition to incision of the eardrum if spontaneous perforation has not already occurred) is the best available means of promoting the reaction of inflammation. Heat, followed by a dash of cold water, is another effective means of promoting the reaction of inflammation.

MASTOID AXIOMS.

1. Tenderness over the mastoid antrum means mastoiditis. That is, apply leeches or heat at once.

2. The surest way to treat inflammation is to increase it. That is, augment Nature's effort to destroy the bacteria and toxins.

3. Leeches to-day may rob the grave.

4. Leeches to-morrow may feed the grave.

5. Don't attempt to kill the germs, or you may kill the patient. Promote Nature's processes and they will do the rest.

INFLUENZA; COMPLICATIONS OF THE NERVOUS SYSTEM,
WITH TREATMENT.*WILLIAM G. STEARNS, M.D.
CHICAGO.

Dr. T. Glover Lyon reports that physicians who had seen the epidemic of influenza in 1847 did not at first recognize the disease in 1889. In the descriptions of epidemic influenza written before 1889 the respiratory symptoms were made most prominent. Then the nervous, the gastrointestinal symptoms coming last. In 1889 the nervous symptoms were most striking. Then the respiratory and, lastly, the gastrointestinal. In 1892 and since, the gastrointestinal has equaled, if not surpassed, the respiratory symptoms in importance. The nervous symptoms still retain first rank. It was then only for a short period prior to 1889 that the nervous symptoms were not given the place of first importance. Whatever the relative importance of the nervous symptoms may be in influenza, it is certain that more organic and functional disturbances of the nervous system are produced by influenza than by any other acute infectious disease. The reason for this is found in Pfeiffer's bacillus and its mode of invasion, together with the unexplained selective action which the bacillus and its toxin have for nerve tissue.

1. Pfeiffer's bacillus, like pneumococci, gains entrance to the blood and metastatic inflammatory processes result, as encephalitis, meningitis.

2. Pfeiffer's bacillus is pyogenic; hence these metastatic foci may result in pulmonary and intracranial abscesses.

3. Pfeiffer's bacillus elaborates a toxin which, like the Klebs-Loeffler bacillus, produces toxic degenerative changes; for example, neuritis, etc.

4. Because of the general debilitating effect upon the entire organism, together with its selective enfeebling action upon the nervous system, the functional nervous and mental disorders are most numerous.

Nervous complications, in point of frequency ranking at least only second to the respiratory, are present at all times in the course of the disease, and often appear in their most dangerous forms late in convalescence. Of the prodromal period, the symptoms referable to the nervous system are, first and most constant, pain.

Pain.—Headache, usually frontal, orbital or supra-orbital; occasionally general; and at times occipital. Backache, usually lumbar. Pain in the legs, myalgia. The pain is often extreme, excruciating and occasionally accompanied by such great mental depression as to become overwhelming; the patient lies still, is stupid and unresponsive. This condition may pass into one of true coma. The excessive pain, however, may be shown by an opposite reaction. The patient becomes extremely restless, constantly agitated, making many wild demonstrative and often purposeless movements, and is usually more or less delirious, but rarely becomes maniacal. Usually these symptoms of profound mental and nervous toxemia greatly improve in from four to twelve hours, and quite

* Read before the Chicago Medical Society, Feb. 6, 1907.

largely disappear as the temperature rises, which in these cases reaches a high point.

Attacks have been reported as having been ushered in by cataleptic, epileptoid or apoplectic seizures, always followed by a few hours of unconsciousness. These symptoms of cortical irritation, too, pass away with the rising of the temperature. The nervous complications during the *course* of the disease are either inflammatory or degenerative, or both; that is, due either to the direct invasion of the bacillus or its toxins, or both.

1. Encephalitis occurs during the course of the disease or during convalescence, and is of two types—simple inflammatory or hemorrhagic, and purulent. Simple encephalitis is a rare complication and is due to the direct influence of the bacteria which are more or less disseminated throughout the encephalon, and to the effect of the toxins. The Pfeiffer bacilli have been found in the membranes, the cerebrospinal fluid, the brain substance, the capillaries and in the perivascular lymph spaces, as well as in foci of softening in both the cerebrum and cerebellum. The symptoms of encephalitis are both general and focal. The onset of the general symptoms may be slow and insidious, associated with vertigo and headache, or it may be a sudden apoplectiform seizure, usually preceded by chill, and the sudden rise of temperature. This latter mode of onset is most common, however, when it occurs during convalescence. There is loss of consciousness, coma, and usually convulsions. The focal symptoms depend wholly upon the location and severity of the lesions. In differentiating between encephalitis and hemorrhage, embolism and thrombosis, consider the acute onset with chill, constantly high temperature, the prevalence of an epidemic, and, if the patient be young, the age. The purulent form of encephalitis may be either primary, as proved by Oppenheim and Leichtenstern, or secondary, by extension from the cranial sinuses, or by metastasis from the suppurating tonsils, or purulent pulmonary foci.

2. Meningitis. Aside from the purulent meningitis resulting from direct extension from the cranial sinuses or other nearby foci, we have a much more common complication, often termed "meningitis grippalis," in which there is primary invasion of the cerebrospinal membranes through an undemonstrated route, occurring usually at the height of the febrile course of the disease, most frequently found in children. The symptoms vary greatly, depending upon the location and severity of the inflammation. The differential diagnosis from epidemic cerebrospinal meningitis may be impossible to make, except by lumbar puncture.

3. Pseudo-meningitis. Beginning with headache, nausea and vomiting, high fever, somnolence and stupor; cervical rigidity and coma follows. Inequality and dilatation of the pupils; slow pulse and intermittent respiration; abdomen rarely retracted, warrants the diagnosis of meningitis. A few days later these symptoms disappear, and only those of influenza remain, and the diagnosis is pseudo-meningitis. Some of these cases have resulted fatally, and the autopsy revealed only edema

of the membranes, increase in the cerebrospinal fluid, and hyperemia of the pia.

4. Myelitis. Just as the brain may be invaded or poisoned by the bacteria or its toxin causing a varied symptomatology, determined by the location and severity of its lesions, so does the bacteria and its toxin affect and injure the spinal cord, producing any and all known spinal symptoms or groups of symptoms, combined in various ways. Myelitis may occur, together with encephalitis or meningitis. Myelitis due to influenza is always acute, and if very extensive and very acute the symptom group of Landry's paralysis may be reproduced. Paralysis, paraplegias, decubiti, cystic paralysis, sensory disturbances, ataxia and contractures may be a grouping of symptoms identical to compression transverse myelitis. Cases of spastic spinal paralysis have been reported. In these cases influenza appears to have selected and injured only the pyramidal tracts. Leyden has reported the case of a child, showing acute ataxia, in which the diagnosis of acute encephalo-myelitis was made, and yet recovery followed.

The nervous complications of *convalescence* are, aside from the occasional development of abscesses, chiefly toxic. The toxins of influenza, like those of other bacterial or chemical poisons, lead, alcohol, etc., if sufficiently virulent, will produce degenerative changes in the peripheral nerves, causing paralysis, anesthesia, etc. If the toxins are not sufficiently strong to resist or withstand the poisonous influence, then there arises only a disturbance in the function of those nerves or that nerve so affected, that is but transitory. Hence the toxic lesions of convalescence are either shown by loss of function or disordered function, or both. These lesions are, moreover, distributed so haphazard as to permit of no grouping or classifying. All of the chemical poisons and some of the bacterial toxins produce constant lesions, with characteristic symptom groups, but the influenza toxin shows little tendency to be selective in its attack upon the nerves, and that little is shown by a slightly more frequent affection of the cranial nerves.

The lesions due to degenerative changes are chiefly neuritis, multiple or polyneuritis, usually symmetrical, and consist of an acute inflammation of the nerve fibers. The onset appears from one to two weeks after the acute disease, and runs a comparatively short course, causing the usual clinical phenomena, with sensory and vasomotor symptoms most prominent, yet motor and trophic symptoms are not wanting.

5. Neuritis. While closely resembling the nerve degenerations following diphtheria as to frequency, course and recovery, yet it is decidedly unlike it in its distribution and consequently its clinical picture. While diphtheria is fairly constant in its selection of nerves, influenza has attacked almost every cranial nerve and spinal nerve in the body, often affecting only certain branches and singling out certain muscles or groups of muscles.

The olfactory, optic and ocular nerves are affected in all possible ways, even bilateral paralysis of the seventh nerve has been reported. Paralysis of the motor supply of the pharyngeal plexus is almost as common as

after diphtheria. Angina pectoris has been reported. Attacks of syncope are not infrequent. Some cases of sudden death from paralysis of the heart are on record. Leyden has reported two cases of unilateral paralysis of the hypoglossal, both with and without paralysis of the corresponding half of the tongue. Vasomotor disturbances, often associated with vagus affections, are frequently indicated by hyperidrosis universalis; symmetrical asphyxia of the extremities, as in Raynaud's disease; general or localized hyperemia and erythema.

Many cases of neuritis affecting the *spinal nerves* have been reported affecting the nerves of the brachial plexus, with extensive atrophy. In these cases neuralgia was an especially prominent symptom. The ulnar, median and radial nerves have been affected in various combinations. Intercostal neuritis, with herpes zoster, has been of frequent occurrence. Isolated paralysis of the nerves of the lower extremities are not common, yet many cases have been reported.

Neuritis is often associated with the rheumatic affections of the fibrous tissues involving a single nerve or group of nerves. Branches of the sacral and the sciatic nerve are most often so affected, the lesion being primarily a perineuritis. Pain in these cases is most persistent, recovery the rule.

The symptoms due to irritative lesions are neuralgia, myalgia, convulsions, tremor and epilepsy. In many cases of epilepsy the first convulsion was noted during the course of influenza, and in many cases of epilepsy in which no seizure had taken place for many years the convulsions reappeared during its course.

Of the functional neuroses, neurasthenia and hysteria, like epilepsy, may appear for the first time during convalescence from influenza, or when previously present have reappeared or have been aggravated by an attack of influenza. These neuroses appear in every known type. In neurasthenia following influenza, hypochondria and motor weakness are most usually dominating symptoms.

Chorea is not very frequently developed in the course of influenza. However, a case of chorea, with spasms of glottis and diaphragm, has been observed in a very young child, excluding the possibility of its being hysteria. As in erupous pneumonia, many cases of *delirium tremens* develop.

Influenza is given as an exciting or incidental factor in the production of most of the organic nervous diseases, as tabes dorsalis, paralysis agitans, spastic spinal paralysis, multiple sclerosis, Basedow's disease, general paresis, etc. Cramps, tremors, shaking paralysis of an arm, with anesthesia, and other similar symptoms of cortical irritation, are occasionally noted, with recovery.

6. Psychoses. Lichtenstern reports more psychoses after 439 cases of influenza than after 2,000 cases of typhoid fever and 3,000 cases of pneumonia combined. These were not the exhaustion psychoses, but rather of the toxic group, being due to the specific toxin of influenza. Many of these cases developed in the young, even in children. Kraepelin, on the other hand, believes a neuropathic or inherited base necessary to

the development of a psychosis in the course of influenza. Psychoses often appear in the prodromal stage. For from one to three days before the temperature rises, the patient is affected with increasing depression, anxiety and stupor. These symptoms disappear upon the approach of the fever. The effects are transitory and toxic.

During the febrile stage, disturbances of consciousness, with hallucinations, melancholy, anxiety, fear, refusal of food, delusions of persecution, are not uncommon. Occasional cases of acute mania, with a wealth of delusions, hallucinations and illusions are noted. Recovery from these conditions usually take place with *fall* of temperature. During convalescence exhaustion psychoses occasionally develop. Aside from this form, none of the psychoses developing during this period have common characteristics, although they offer a tempting field for classification.

TREATMENT.

The treatment of the nervous complications and sequelæ of influenza, embracing, as it does, the greater part of the entire field of treatment of nervous and mental diseases, can not well be here discussed in detail. Each patient should be frequently observed and absolutely controlled from the first appearance of suspicious symptoms until convalescence has been established by at least two weeks. Aside from emphasizing the great importance of *careful general* management of every case, I want to call attention to a few old familiar drugs and their application to the treatment of the *more severe* nervous complications arising during the course of the disease.

In a few cases of influenza without respiratory or cardiac complications, in which varying degrees of irritation of the central nervous system were evidenced by excruciating pain, motor restlessness and mental agitation, as well as in several psychoses, I have used bromids freely, with apparent benefit and no untoward results. Dr. Ballinghall, in the *British Medical Journal*, 1904, most strongly recommends the use of potassium bromid in influenza. He has found the drug to have a sedative and even tonic action in neurotic and hysterical cases. He has found it especially efficient in cases in which the aching of the head and limbs were prominent symptoms, giving it in doses of ten to fifteen grains every two or three hours. He well cautions against the use of bromids in old patients, especially in those having pulmonary or cardiac complications.

The primary effect of the influenzal toxin upon the nervous system is always *irritative*, and the *seeming* prostration and nervous depression are but due to the benumbing and overwhelmingly irritative and paralyzing effect of the intoxication. The bromids are used to their greatest efficiency as a sedative in cases of systemic nervous irritation, and, as this is certainly the most commonly found condition in the nervous complications of influenza, its use should at least be given a thorough trial in these cases, where there are no complicating conditions contraindicating their use.

Opium or its derivatives is of great value also in these conditions of great nerve irritation, and is, in my opinion, indicated in every severe

case and should be combined with bromids where that drug is not contra-indicated.

In cases in which the action of the secretory and excretory organs are inhibited by the direct irritative action of poisons upon the central nervous system, opium in proper dosage will *not* increase that inhibitory influence, locking up the secretions more tightly, but it will, on the other hand, through its sedative action upon the central nervous system, destroy that inhibitive influence and allow the excretory organs to again become active. By preventing or counteracting the benumbing and paralyzing action of the bacterial poison on the central nervous system opium will increase the flow of secretions and excretions in such cases. The dryness of the mucous membranes will disappear, the digestive juices again begin their flow, the kidneys regain their activity, the skin become moist, and the constipation, where present, disappear. If calomel and soda be given with opium, there is added the needed diuretic and hepatic stimulation. Where the wet pack is properly used, it has by its sedative and eliminative action a most beneficial effect.

ETIOLOGY OF SCARLET FEVER—IS IT A STREPTOCOCCUS DISEASE?*

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In view of the limit in time I shall confine myself largely to an informal discussion of the question, Is scarlet fever a streptococcus disease? Since the earliest application of microbiologic methods to the study of scarlet fever the streptococcus has claimed the lion's share of attention. Its significance has grown as the observations have extended. At present the streptococcus is held by some to be the actual cause of the disease, while others, and I think the majority, look upon it as essentially a secondary invader, upon which, however, depends to a large extent the fate of the patient.

For the purpose of discussing this question, it is necessary first of all to consider the occurrence and the distribution of streptococci in scarlet fever. Numerous investigations¹ have indicated that streptococci occur upon the tonsils of scarlet-fever patients in far greater abundance than in health. In his study of the bacteria of the throat and skin in scarlet fever, Weaver calls special attention to the enormous numbers of streptococci in the throat in this disease and to their gradual disappearance as convalescence progresses. For various reasons, but principally because of the lack of convenient means, most of the studies of tonsillar streptococci give few details in regard to the cultures obtained. On this account, G. F. Ruediger² last year made a careful, detailed study, by means of the newer methods, of the streptococci and diplococci in the

* Read before the joint meeting of the Chicago Medical and Chicago Pediatric Societies, Feb. 27, 1907.

1. For references to the literature see Weaver, Transactions Chicago Path. Soc., 1903, v. 222, and Jour. Med. Research, 1903, ix, 246.

2. Jour. Am. Med. Assoc., 1906, xlvii, 1171; Jour. Infect. Dis., 1906, iii, 755.

throat in scarlet fever, certain other diseases and health. Ruediger made use of the blood-agar plate method of Schottmüller and Rosenow. On the blood-agar plate streptococcus pyogenes produces small gray colonies surrounded by a perfectly clear area of laking, while the colonies of certain other chain-forming cocci and of pneumococci are green. His results must be considered as striking, because they show that streptococcus pyogenes is constantly present in great abundance on the tonsils of patients with scarlet fever and tonsillitis before the throat symptoms begin to subside. He found streptococcus pyogenes in small numbers only in 59 per cent. of the 51 normal throats he examined, while pneumococci and the large group of organisms (streptococcus viridans) that lies between streptococcus pyogenes and pneumococcus were found in about equal numbers in the normal and the scarlatinal throats, thus showing that constant presence on the tonsils of streptococcus pyogenes in large numbers is an outstanding feature of scarlet fever.

From the throat streptococci frequently pass to neighboring structures and give rise to more or less serious local complications. They may also reach the circulating blood and cause streptococcemia as well as various internal and articular localizations.

In 100 unselected cases of scarlet fever in which I examined the blood systematically during life, streptococci developed in the cultures from 12 cases, all of which recovered, although several were very ill.³ In Jochmann's series of 161 cases streptococci were recovered in 25, all of which died.⁴

By way of explanation of this divergence I may point out that my cases occurred in a mild epidemic, were strictly unselected, most of the patients being over 10 years in age and many over 20; whereas Jochmann's cases occurred in a frightfully severe epidemic, the patients being children under 10 and probably not strictly unselected.

All observers agree that in fatal scarlatina general streptococcus infection is demonstrable after death in the large majority of the cases. Baginski and Sommerfeld⁵ report streptococci in the blood and the internal organs of every one of 82 cases, including several in which death occurred early and in which there were no gross lesions. In other series general streptococcus infection was present in a smaller percentage of the cases (Wright, Pearce, Slawyk, Jochmann, etc.), and instances of fatal fulminating scarlatina have been described in which there was no demonstrable evidence of serious streptococcus infection (Böhm, Jochmann). In general streptococcus infection, streptococcus pyogenes appears to be the predominating form; occasionally, however, we meet streptococcus viridans.

Now, if streptococci play an essential and constant part in scarlet fever, as indeed seems to be the case, then we would expect to find in the blood of the patients various specific antibodies for streptococci, more particularly agglutinins and opsonins. And in case the streptococci concerned in scarlet fever differ essentially from other streptococci we natur-

3. Jour. Am. Med. Assoc., 1903, xl, 685.

4. Zeitschrift Kl. Med., 1905, lvi, 316.

5. Arch. f. Kinderheilkunde, 1902, xxxlii, 1.

ally would hope to find in these biologic reactions means of differentiating between them.

As a matter of fact, various observations have been made on the agglutination of streptococci by scarlatinal and other serums, but the results lack the desired uniformity. In an important article on the subject, Weaver⁶ has pointed out that this in part may be due to technical difficulties, in part because it has not been recognized adequately that variations in the composition and reaction of the culture medium have a marked influence on the agglutinability of streptococci.

In general, Weaver's results show that in scarlet fever agglutinins develop for streptococci, but these agglutinins are not specific for streptococci obtained from cases of scarlet fever, and like agglutinins form to an equal degree in erysipelas and even in pneumonia, and probably other infections not necessarily streptococcal. We see, then, that as the matter now stands no decisive conclusions are indicated by the agglutination of streptococci by scarlet-fever serum as to their relation to scarlet fever. The scarlatinal streptococco-agglutinins should be studied still more closely in the hope of obtaining results of more positive significance. Thus it is quite possible that fairly characteristic relations may be found to exist between the agglutinin-curve and the course and character of the attack. Experiments with the serums of animals immunized with streptococci have given results that in some instances are quite suggestive of a degree of specificity on the part of scarlatinal streptococci. Ruediger found that most strains of streptococcus pyogenes isolated from the throat in scarlet fever were clumped in fairly high dilutions of the serum of sheep immunized with an organism from the same source, but not at all by the serums of sheep immunized with a streptococcus from phlegmon of the leg or with streptococcus viridans. Here also further work is necessary.

As to the streptococco-opsonic index in scarlet fever, I may say that a recent study in our laboratory by Miss Tunnicliff, the results of which are not yet published, indicates quite definitely that the index is below normal during the acute stages of disease in the majority of the cases; as the symptoms subside the index commonly rises above normal, to which the return may be more or less abrupt. During uncomplicated convalescence the index is normal, or practically so. If complicating streptococcus localizations set in the index remains low until improvement begins. These variations in the streptococco-opsonic index appear to be specific, because they are not associated with corresponding variations in the opsonic index for other bacteria, such as the pneumococcus, the staphylococcus and pseudodiphtheria bacilli.

From the facts presented in this condensed form, we are justified in concluding (1) that the predominant feature of the bacteriology of the throat in scarlet fever is the constant presence of large numbers of streptococcus pyogenes; (2) that the overwhelming majority of the so-called complications and of the deaths in scarlet fever is due to invasion of the tissues and the blood by this microbe; and (3) that in scarlet fever, even

6. Jour. of Infect. Dis., 1904, i, 91.

when mild, the organism gives evidence of systemic reaction to streptococci by variations in the streptocoeco-opsonic index and probably also by the formation of streptococco-agglutinins. There is, therefore, no escape from the conclusion that streptococcus pyogenes or some form thereof plays a most significant part in the scarlatinal process; but are we ready to take the final step and to conclude that scarlet fever is wholly a streptococcus disease all the phenomena of which, including the acquired immunity, are satisfactorily explained by the distribution of the cocci in the tissues and by the intoxication with their products?

It is quite true that many of the essential phenomena of scarlet fever, such as the initial symptoms, the angina, the fever, the leucocytosis and even the rash, may be explained by what we already know of the pathogenic powers of streptococcus pyogenes and which probably in no small degree actually shares in their production, but there is no analogy in recognized streptococcus infections of the immunity conferred by scarlet fever even when mild. We have no evidence that scarlet fever leaves behind it any lasting immunity to streptococci, and we do know that the specific immunity which results from streptococcus infections in general is not at all marked and only brief in duration. Consequently, if scarlet fever is caused by a form of streptococcus pyogenes, this must be assumed to possess very pronounced and peculiar immunizing properties, of which as yet we have been unable to discover definite experimental evidence.

There are many other phases of this question that might be discussed with profit did time allow. For example, there is the reported lack of evidence of streptococcus invasion in certain instances of fulminating scarlatina. Let us now for a moment consider acceptance of the streptococcal theory of scarlet fever from the point of view of the spread of the disease. This acceptance would seem to involve us in no special difficulty, so far as the most important of the recognized modes of dissemination are concerned, namely, through contact in various ways with materials from the throat; it is different, however, with respect to the question of the infectiousness of the skin and the reputed longevity of the scarlatinal virus. It is universally believed that the scales of scarlet-fever patients are infectious far into convalescence. According to Weaver's careful study, the bacteria obtainable in the skin and scales of scarlatina are quite the same as those found on the skin in health. Raskin obtained streptococci from the skin in 4 cases in 20; Gordon's search yielded no positive result; Weaver found streptococci in skin cultures in one case in 15; and Dreyer (unpublished observation) failed to find streptococci on the skin of 30 cases. The conclusion is plain: If streptococci cause scarlet fever they reach the surface of the body so rarely that the infectiousness of the skin must be greatly over-rated.

Medical literature contains numerous instances of apparent conservation of the scarlatinal virus over a long period of time—several years—whereas the longest time that Weaver⁷ could cultivate streptococci from preserved scarlatinal material was ninety days.

There are, then, rather definite obstacles to the unreserved acceptance

7. Jour. Med. Research, 1903, n. s., iv, 246, and Trans. Chicago Path. Soc., 1903, v, 259.

of the streptococcus theory of scarlet fever. The view that the specific cause of scarlet fever is not known,⁸ and that the streptococcus is a concomitant or secondary invader for the growth and activity of which the conditions in this disease are peculiarly favorable, seems to me to harmonize better with the facts now at hand. This view receives strong support from the fact that smallpox is practically always associated with streptococcus invasion,⁹ so that the claim has been set up that smallpox, too, is a streptococcus disease.¹⁰

Perkins and Pay dispose of this claim, however, by causing smallpox in monkeys with materials entirely free from streptococci, and these as expected have no such effect.¹¹

It has been said that smallpox would be a relatively harmless disease were it not for the streptococcus invasion, and there are certainly good reasons to look upon scarlet fever in the same light. From the fact that there is no evidence in scarlet fever of increased activity on the part of pneumococci and certain related cocci that normally inhabit the throat, we may infer that the conditions in the scarlatinal throat are peculiarly favorable to the streptococcus pyogenes. Indeed, in view of the paramount importance of streptococci in the course and outcome of scarlet fever, the chief significance of the pure scarlatinal virus would seem to lie in its power to open the door, so to speak, to streptococci. From this point of view the need for potent antistreptococcus remedies is as urgent and their eventual specific effects as logically explainable as would be the case were scarlet fever considered a streptococcus disease pure and simple. One point remains. In view of the fact that streptococci grow in virulence in the susceptible animal organism, it becomes our duty to guard carefully by adequate isolation against the transfer of specially virulent strains from patient to patient. We can understand from what we know of the dissemination of throat and mouth bacteria in coughing and other ways, the great chance for such transfer when patients lie side by side in the same room. Perhaps the sad instances of several deaths from scarlet fever in children of the same family, sometimes spoken of as examples of family susceptibility to scarlatina, often result from the passage from child to child of especially virulent streptococci.

8. Whether the protozoon-like bodies described by Mallory (*Jour. Med. Research*, 1904, x, 483), in the skin of scarlet fever, the parasitic nature of which is corroborated by Duval (*Virchow's Archiv*, 1905, 179, 485), but questioned by Field (*Jour. Exp. Med.*, 1905, vii, 343), have any etiologic significance is of course a question for the future.

9. Ewing, *Trans. Assoc. Am. Phys.*, 1902, xvii, 208; Perkins and Pay, *Jour. Med. Research*, 1903, x, 195.

10. De Waele and Sugg, *Munch. Med. Wochschr.*, 1905; *Centralbl. f. Bact.*, Abt. 1, 1905, xxxix, 324.

11. On account of incommunicability of scarlet fever to animals the investigator is without ready means to determine whether scarlatinal materials or microbes he may isolate therefrom have specific pathogenic powers.

HOW TO PREVENT THE SPREAD OF INFECTION IN CASES OF SCARLET FEVER.*

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The means to be used in preventing the spread of infection from scarlet fever are: First, reporting cases to health boards; second, quarantine and isolation; third, disinfection; fourth, school and dairy inspection.

In considering preventive measures for scarlet fever, it is well to bear in mind that scarlet fever is not so generally infectious as measles or smallpox. In a community of susceptibles, those never having had the disease, about 38 per cent. will contract the disease when exposed to scarlet fever, whereas, in a like community, about 99 per cent. will contract smallpox or measles if exposed to these diseases. It is well to remember, also, that only about 7 per cent. of those who have never had the disease, above 40 years of age, are attacked when exposed to scarlet fever, and that infants under 4 months of age are rarely attacked. The susceptibility to scarlet fever is, therefore, not so universal as is the case in some other infectious diseases.

We must assume from the manner of transmission that the disease is caused by a micro-organism, and that this organism can be conveyed a short distance in the air, as in a room, but no great distance in the open air; that it can be conveyed from the sick to the well on articles of clothing, furniture or any of the ordinary things in use if they have been infected with germs emanating from a scarlet fever patient. The proof is strong that the infection can be conveyed through the milk supply. Some evidence has been adduced that cows have scarlet fever and are responsible for outbreaks of scarlet fever supposed to originate from the milk supply. It is generally believed, however, that the milk is infected from persons convalescing from scarlet fever who are engaged in milking or in handling and delivering milk to consumers. A man convalescing from scarlet fever could secure employment on a farm while his employer would be innocently ignorant of the danger to which he is exposing those to whom he supplies milk. The inspection of dairies and the source of their supply of milk has become a necessity. Fruit and vegetables peddled from a house where scarlet fever exists can be the means of spreading the disease, as many fruit and vegetable peddlers use the living house as a store house. The infection has been conveyed through the mails in letters sent from an infected house.

The prophylaxis of scarlet fever consists in separating the sick from the well and destroying all infection emanating from the scarlet fever patient. To accomplish this all cases of scarlet fever should be reported to a responsible health officer. All cases which can not be properly isolated at home should be taken to an isolation hospital. When the case is taken to a hospital the premises should be disinfected and the inmates now exposed kept from mingling with others for eight days. If scarlet fever is treated in the home a warning card should be placed on the front

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and rear doors. The card on the rear door gives warning to the milkman and is important. The patient should be placed, if possible, in a room apart from the rooms occupied by other members of the family. All doors opening into the patient's room should be covered with a sheet kept wet with a disinfecting solution. A bed sheet or one made from cheap cotton cloth should be fastened to the top of the door frame and down the hinge side of the frame, leaving the edge on the lock side free to be turned back when passing through the door. The sheet must be long enough to allow two or three inches to lie on the floor. No article of furniture—carpets, rugs, curtains, ornaments, books, etc.—except the things actually necessary for the care and comfort of the patient should be left in the sick room. If the patient is in the room to be occupied when taken sick do not move the furniture. Exclude cats, dogs and other pets, including birds, from the room, since these are liable to carry infection.

Isolation to be effective must be complete. No persons except the strictly necessary attendants should be allowed to enter the sick room. These should wear only such clothing as can be boiled in water. The hands should be rinsed in a disinfecting fluid immediately after every attention to the patient. The floor of the sick room must not be dry swept. Instead of sweeping, go over the floor with a mop or cloth wrung out of the disinfectant. And instead of dusting, all accessible surfaces—as of doors, door knobs, wainscots, window frames and ledges, tables, chairs, the exposed parts of the bed frame, should be wiped with a cloth damped with the disinfectant. All dishes and table utensils used in the sick room must be placed in a disinfecting fluid before being taken from the room. Flowers brought to the sick should not be thrown out, but placed in the disinfecting fluid and then burned.

A sufficient quantity of a good disinfectant, 1 to 500 bichlorid of mercury solution or a 5 per cent. solution of carbolic acid, should be kept in the sick room in a wooden pail, slop jar or other vessel—not metal if the corrosive sublimate solution is used—and into this all towels, napkins, handkerchiefs, pillow slips, sheets, etc., and all articles of clothing used in the room must be dipped and wrung out before removal. They should be taken to the laundry while still wet and there be rinsed with clean water, and then before drying have them thoroughly boiled. If the carbolic acid solution is used the rinsing is unnecessary, as this disinfectant does not injure the boiler.

All discharges from the mouth and nose in scarlet fever should be received upon pieces of old soft cotton, linen or worn handkerchiefs, and burned at once. Do not allow a cuspidor or other spit vessel to be used in the sick room, and especially do not allow the patient to spit on the floor. If this should accidentally happen, wash the place immediately with the strong disinfectant. The night vessel should be kept one-third full of the strong fluid, to be emptied not sooner than half an hour after each use, and then immediately resupplied with fresh fluid. All discharges should be disinfected in this way before being emptied into water closets or otherwise disposed of. These precautionary measures should be con-

tinued after the recovery or death of the patient until the house is disinfected.

Members of the family must keep away from public gatherings, must not go visiting nor receive visitors in the infected house. They should have a disinfecting solution in which to wash hands, face and hair, when necessarily leaving the house. The clothing should be sponged off with the same solution. Few cases can be properly isolated at home. An isolation hospital is a necessity.

The doctor should be careful not to carry infection on his clothing or person. He should put on a robe before visiting the patient, which can be kept in a hall or adjoining room. If he does not wear a robe he should not sit down in the patient's room nor handle anything in the room, not even the patient, if he can avoid doing so. If the doctor does not get infection on his clothing, hands, face or hair, he will not carry it to others. Do not carry a hat full of air out of an infected house into some other home. If the hat is taken off and replaced in the house a hat full of air is taken from the infected house. If the hat has been removed while in the house, it should again be removed in the open air and swung about to remove the pent-up air.

MEDICAL INSPECTION OF SCHOOLS.

An indispensable aid in keeping the sick from the well is an adequate corps of medical inspectors for schools. If we have a sufficient number of medical inspectors, the schools would never have to be closed on account of scarlet fever. I wish to go on record as saying that closing schools because of the presence of scarlet fever is needless. By medical inspection of schools the sick can be kept from the well, and during the school hours we are certain the well children are not visiting the sick. Close the schools and you have a lively, restless population of children, with nothing to do but to visit each other and distribute disease. Closing of schools to control an epidemic is an acknowledgement that we do not know what to do or that the means for medical inspection is not furnished.

HOW LONG SHOULD SCARLET FEVER VICTIMS BE ISOLATED?

Upon this question there seems to be more ignorance in the medical profession than upon any other medical subject with which I am acquainted. There are men in this society, I regret to say, who ask for disinfection of premises one, two or three weeks from the onset of a case of scarlet fever and when desquamation is plainly in evidence.

Complete isolation should be enforced until all desquamation of the skin is completed and there is entire absence of discharge from the ears, nose, throat, suppurating glands, or inflammation of the kidneys. The time required for sealing will vary from four to eight weeks. Mild cases in which sealing is not noticeable, with absence of the ear, nose, throat, kidney and glandular complications, should be isolated not less than six weeks. In severe cases, not less than eight weeks should be the period of enforced isolation, and if ear, nose, throat, glands or kidneys are diseased prolong the time of isolation until these are well.

TO DESTROY INFECTION.

When the case is ended soak all sheets, pillow slips, towels and other washable articles in the sick room in the strong disinfectant solution and remove them while wet to the laundry to be there boiled at least thirty minutes. Sprinkle thoroughly all surfaces of pillows and of the mattresses with the strong disinfectant and then carry into the open air, to be exposed to sunshine. Mattresses and pillows should be burned or sterilized by heat if soiled by discharges from the patient. Wash the floor and woodwork first with the strong disinfectant and immediately after with hot water and green soap. Treat the furniture in the same way. Brush the ceiling and walls thoroughly with the disinfectant, and then repaper and calcimine after two or three days' exposure by open doors and windows. Do not neglect closets, shelves, ledges, cornices or other surfaces on which dust may settle.

FORMALDEHYD DISINFECTION.

A formaldehyd disinfection is, perhaps, a safer method made as follows: The house to be disinfected is sealed and prepared as usual for sulphur disinfection by pasting strips of paper over cracks of doors and windows. All its surfaces are exposed as much as possible; closet doors are opened and their contents, together with the contents of drawers, are removed, scattered about and the drawers left open; mattresses are set on end; pillows, bedding, clothing, etc., are suspended from lines stretched across the room or spread out on chairs and other objects so as to expose all sides; books are opened and the leaves spread—in short, the rooms and their contents are so disposed as to secure free access of the gas to all parts as fully as possible. For every 1,000 cubic feet of space in the house suspend by one edge an ordinary bed sheet (2 by 2½ yards) from a line stretched across the middle of the room. Properly sprinkled this will carry, without dripping, eight ounces of formalin—the 40 per cent. solution of formaldehyd gas—which is sufficient to disinfect 1,000 cubic feet of space. As many sheets as necessary are used, hung at equal distances apart. The ordinary rather coarse cotton sheet should be used in order to secure rapid evaporation. The house should remain sealed not less than eight hours. The entire house should be disinfected in every case of scarlet fever.

In case of death from scarlet fever, the body should be placed in a coffin as soon as possible, the coffin immediately sealed and not again opened. There should be no flowers. The funeral should be held within thirty-six hours after death and should be private. By a private funeral is meant one that is attended only by members of the household already exposed to the infection and such adults as are necessary to aid the undertaker. All others, especially children, should not be exposed to the infection.

A too early termination in cases of scarlet fever and careless and faulty isolation of patients are the most serious problems in the management of scarlet fever in a large city. All cases not properly isolated at home should be taken to a hospital. I wish to state again that after scarlet fever the entire house should be disinfected.

THE COURSE, SYMPTOMS AND DIAGNOSIS OF SCARLET FEVER.*

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Sydenham, who, from observations in the London epidemic of 1661-65, first differentiated scarlatina from measles and christened it *Febris scarlatina*, never saw any but the mildest cases, such as have abounded in our present epidemic, and, devoting barely a page of his "Observations" to its discussion, considered the affection scarcely worthy the name of a disease. A century later Fothergill identified the *Cyanche maligna* (malignant sore throat) of Cullen, with scarlatina, and subsequently cases were observed, as to-day, where the virulent infection overwhelms the patient within twenty-four hours of its onset. Between these extremes all grades of severity are witnessed, so that we may say that few diseases present a greater range of virulence. To describe the nosology and diagnosis of such an affection in a quarter-hour demands the condensation of a quiz-compend.

I had thought to present this evening a study of about 300 cases treated at the Memorial Institute for Infectious Diseases, kindly placed at my disposal for this purpose by Dr. Hektoen, and many of which I had the opportunity to observe, but the studies are not yet completed, and would require for their adequate discussion much more than fifteen minutes. It is proposed, therefore, to present a hasty summary of the course and symptoms of scarlatina as presented by these cases and as described by the authors.

Various classifications are made of the types, none more practical perhaps than that which divides them into (a) *Scarlatina simplex*, the usual variety. (b) *Scarlatina anginosa*, the anginose or septic type, and (c) *Scarlatina maligna*, or *fulminans*.

SCARLATINA SIMPLEX.

All types of scarlatina are characterized by abruptness of onset and the brevity of the prodromes. The period of incubation is short as contrasted with that of the other exanthemata, averaging from two to four days, rarely six or seven, while most of the cases reported as having an incubation period exceeding ten days are open to question. A child who has been exposed to the contagion, therefore, possibility of subsequent infection being eliminated, who discovers no symptoms within a week, may with almost perfect assurance be regarded as having escaped infection from that exposure.

The period of invasion is very brief for so serious an affection, ranging from twelve to thirty-six hours, rarely beyond forty-eight. The chief prodromes in the usual order of their sequence in children of the most susceptible age—3 to 10 years—are vomiting, fever, headache, angina, backache, not infrequently convulsions, especially in the very young (in the adult a chill), and, less uniformly, diarrhea. In older children and

* Read before the joint meeting of the Chicago Medical and the Chicago Pediatric Societies, Feb. 27, 1907.

adults the sequence is more commonly angina, headache, fever and backache.

The vomiting is of the expulsive type, without nausea—seldom more than two or three times repeated, and the occurrence of such a phenomenon, without other cause, especially in the presence of an epidemic, is alone sufficient in young children to arouse a strong suspicion of scarlatina. The headache, when present, is severe, as is the backache, though the latter is rarely of that intense severity confined to the lumbar region which is so bitterly complained of as the conspicuous prodrome of smallpox. The angina, usually the first complaint in adults and older children, with dysphagia and a sense of fulness and stiffness, corresponds to the injection and swelling of the pharynx, uvula and tonsils seen at some interval before the exanthem. Younger children often make no complaint of it until later.

The fever rises abruptly, reaching its minimum for the entire course of the disease within twelve to forty-eight hours instead of rising gradually during three or four days, as in measles and smallpox. It does not subside with the appearance of the eruption as in these diseases, but continues with it, subsiding by lysis, practically never by a critical fall. The temperature is relatively high, a rise to 104° F. being common within the first two days— 105° or 106° not infrequent in severe cases, while extremes of 112° have been recorded in fatal cases. The daily excursion is limited, unless later sepsis or severe complications supervene. The pulse is more frequent in ratio to the temperature than in other similar disorders, and especially in the first two or three days—a rate of 140 or 160 being not unusual. Aside from its frequency, the pulse presents no special peculiarities excepting its feebleness in severe septic and in malignant cases. Diarrhea is sufficiently common during the stage of invasion, but by no means so universal as the symptoms which have been mentioned.

The appearance of the tongue, palate and pharynx is early characteristic, and the intense injection of pharynx and fauces is early observed to be of a brighter color than in the other faucial affections, with a papular eruption on the hard palate. The tongue early presents, excepting at the extreme tip and edges, a thick whitish coat through which the enlarged and bright red papillæ are generally to be seen. The appearance has been not inaptly likened to that of a half ripe strawberry, but is not so characteristic as that presented a day or two later when the rapid disappearance of the white coat has left the slightly swollen, intensely red tongue, quite clean, with prominent papillæ resembling a ripened raspberry. It is to this picture that the term strawberry or raspberry tongue is best applied, and its like is rarely seen in other affections.

Some glandular swelling, especially at the angle of the jaws, is often to be noted in the stage of invasion, though in proportion to the severity of the other symptoms it is not so pronounced as in German measles.

These prodromes having endured from twelve to thirty-six hours, rarely beyond forty-eight, the eruption appears. Observing closely one notes on the somewhat pale surface of the neck and upper chest pinhead-sized bright red punctæ, closely set, slightly raised with surrounding

areolæ of lighter color, which quickly coalesce so that shortly the skin presents, when viewed from a slight distance, a uniform brilliant erythema, aptly compared to the color of a "boiled lobster," spreading quickly upward over scalp and face, downward over trunk and limbs, the whole surface being involved in from twelve to thirty-six hours. On the limbs the joint surfaces, particularly the extensor side, show the eruption more markedly. On the face, as on palms and soles, punctæ are rarely seen, and the pale circum-oral margin is a conspicuous feature. The punctæ are usually to be seen on the scalp and back of the ears. On the limbs and sometimes on the lower trunk the eruption is patchy with intervening areas of normal skin. In a considerable proportion of the cases many of these minute papillæ promptly become vesicular, constituting the miliarial type of exanthem, which is especially liable to be attended with itching and burning, but does not of necessity predicate a severe type of the disease. The eruption endures from three to five days, rarely longer, at its height, then fades in the order of its appearance in from one to two days, leaving on the sixth or seventh day a faint greenish yellow discoloration. There is some swelling of the skin involved, not inflammatory, and never that pronounced swelling and distortion of features seen in measles, or, worse still, in variola. The rarer phenomena of gangrene of the skin, decubitus, furuncles, abscesses, urticaria, herpes (a late phenomenon) and pemphigus are evidences, with rare exceptions, of secondary infection.

Desquamation may be first seen to commence as early as the third, usually, however, on the sixth or seventh day, rarely as late as the tenth or twelfth; at first on neck and face, spreading therefrom to trunk and extremities, and continuing a variable period, usually to the seventeenth or twenty-first day, not infrequently for from four to six weeks and exceptionally from eight to ten weeks. Its branny, furfuraceous character on the face (giving to that region the appearance of a ripe peach with its downy coat, which especially attracted the attention of Sydenham) is not so significant as the lamellar, flake-like character observed on the extremities and especially on the hands and feet. This is markedly characteristic, though not invariable, for even here, especially in the milder cases, the desquamation may be furfuraceous. The larger flakes, resulting in almost complete casts of the hands and feet, not infrequent museum curiosities, are not seen in the other exanthemata, but sometimes accompany a severe erythema. I remember to have seen such a case of erythema in DaCosta's clinic, with a history of repeated attacks of the affection with extensive exfoliation.

With the eruption most of the symptoms and signs of the prodromal stage persist. The temperature and pulse continue high, the angina persists; headache and malaise are not infrequently present, and diarrhea may be present throughout the disease. A moderate leucocytosis with some diminution of the erythrocytes is the customary blood finding. A slight albuminuria occurs in the majority of cases; true nephritis is a not infrequent complication, its frequency depending on whether one classifies a simple albuminuria as a nephritis, or reserves this term for the higher degrees of kidney involvement, attended with the appearance in the

urine of casts, epithelia and some pus corpuscles. Convalescence is more gradual and protracted than in measles; the patient from the subsidence of the eruption improving daily unless some complication supervenes. The fever may, however, continue in the absence of these and the patient die in the second or third week from exhaustion. Delirium and coma are not infrequent symptoms in cases of this sort, nor are they always absent from the milder cases.

The septic or anginal type of scarlatina most commonly seen in younger children, is characterized by more severe prodromes, often somewhat more prolonged, and by the early predominance of the throat symptoms. An ulcerative membranous inflammation of the tonsils extends to the neighboring parts, leading to sloughing and sometimes extensive destruction of the tissues of the throat. With the dysphagia, local pain and more or less extensive cervical adenitis and cellulitis, there is marked septicemia, with high temperature, rapid, feeble pulse, delirium or coma and resulting exhaustion. The eruption, often patchy and of more dusky hue, is more irregular in type and development in this form of the disease. A notable feature of this streptococcus, scarlatinal angina is its tendency to spread from the fauces upward to the nares and nasopharynx, frequently extending through the Eustachian tube to the middle ear and occasionally to the accessory sinuses, especially the frontal. Equally notable is its indisposition to extend to the larynx, and even more so to the trachea and bronchi, in contrast to the frequent course of true diphtheria. Suppuration of the glands of the neck is not uncommon, and may lead to a fatal issue, though this more commonly results from the systemic infection, as evidenced by the intense restlessness, delirium, rapid, feeble pulse, profuse diarrhea, sweating albuminuria, wasting and coma. Bronchopneumonia may be the fatal termination.

In malignant or toxic scarlatina the general symptoms are at once out of all proportion to the anginal or other local symptoms. The rash, if present, is patchy and ill developed; petechiæ and even hemorrhages are common. The pulse is rapid and feeble, temperature either subnormal throughout, or rising to a great height in a few hours; the angina is little complained of. In fine, the patient succumbs to the extreme virulence of the affection before the local signs have time to develop. Fortunately, such cases are very rare.

More common is the variety described by Caiger as semi-malignant, in which the prodromal symptoms are severe and so persist throughout—vomiting, high sustained fever (106° or more), pulse very frequent, 160 to 180, rash early and vivid, fauces injected but not ulcerated, mental disturbance pronounced. Death usually by the fifth or sixth day.

Scarlatina without eruption, hemorrhagic scarlatina, the scarlatina of pregnancy and the puerperium, surgical scarlatina and other aberrant and unusual types are purposely left to the discussion of another participant in this symposium.

COMPLICATIONS.

It must suffice briefly to mention the complications and their salient features. Most common of all is otitis media, which occurs in from 10

to 11 per cent. of the cases, and more commonly in those of the severe type and in the young. It may occur at any stage of the disease, from about the end of the first week until late in convalescence. An inflammation of the external auditory canal is seen, but usually brief and trivial. The serious affection is an otitis media, arising from an extension of the naso-faucial inflammation. Beginning with pain in the ear, tenderness, fever, irritability of temper, and some enlargement of the glands beneath the ear, which occasionally suppurate; these symptoms may subside in from two to three days with rupture of the membrane and discharge. Mastoid involvement with all its symptoms and the possibilities of meningeal trouble, sinus thrombosis, and the like, occur as in otitis media from any other cause. About 10 per cent. of the cases of acquired, complete deafness and dumbness can be traced to scarlatina, not including the many cases of partial impairment of hearing.

Cervical adenitis as a complication occurs in about 8 to 9 per cent. of the cases, commencing as a rule in the second or third week of convalescence, leading to suppuration in about one-third of the cases, and exceptionally to extensive cellulitis and destruction of the tissues of the neck.

Scarlatinal arthritis is seen in about 4 to 5 per cent., and differs from rheumatism in several particulars. Its site of predilection is in the small rather than the large joints, and preferably those of the fingers, hand and arm, instead of the leg; or, if in the leg, the feet and ankles rather than the knees and hips. It shows less tendency to migrate, is unattended with acid perspiration, is less painful and less frequently involves the heart (about 3 per cent.). More common in adults and older children, in females than in males, it develops quite constantly on the fifth, sixth or seventh day of the eruption as it is about disappearing, and lasts for three or four days to a week. Suppuration is rare. The salicylates are helpful in relieving the pain and tenderness, but not so effective as in articular rheumatism.

One of the most insidious and to be dreaded complications is the nephritis, which, as a severe complication, is observed in 3 to 4 per cent. of patients. Unlike most of the other complications, it is common after mild as well as severe attacks—is especially to be seen in cold, damp weather, and where the patient has not been protected from these conditions. Commencing in the second or third, less commonly the fourth week, usually with rather sudden onset, comprising headache, vomiting, drowsiness, rise of temperature and perhaps a chill; the urine is found to be scanty and to contain albumin, usually blood, and presently epithelial and blood casts. Edema is soon to be observed in the face, hands, feet and loins. The febrile period continues for five or six days, the "spiked" character of the temperature curve being especially characteristic. Or the nephritis may come on insidiously without fever or the other pronounced symptoms above mentioned. In such cases it usually endures longer and is more likely to lead to serious results.

The prognosis in scarlatinal nephritis is usually favorable under suitable conditions and management, as when the complications arise while the patient is in the hospital; chronic nephritis may, however, result or

death ensue from uremia, suppurative inflammation, or acute pulmonary edema.

Eczema and ulcerative stomatitis occur in about 2 per cent. each; tonsillitis in $1\frac{1}{2}$ and bronchitis in 1 per cent., according to Caiger. Of the rarer complications there are many, and among them may be mentioned bronchopneumonia, pleurisy, empyema, endocarditis, pericarditis and myocarditis, and acute dilatation of the heart, functional disorders of the digestive tract—organic disease being rare—meningitis, peripheral neuritis, hemiplegia, chorea, epilepsy, insanity, usually as acute mania, and various complications of the skin already mentioned. Concurrence with diphtheria, measles, pertussis and other affections is exceptionally seen.

DIAGNOSIS.

The diagnosis of scarlatina when typical is seldom attended with doubt. The sharp onset with vomiting, angina, rapid rise of temperature and pulse, and the prompt appearance of the eruption on the palate and skin, with the striking injection of the fauces and the peculiar tongue, combine to form a picture little likely to be confused with any other disease. It is in the very mild attacks, on the one hand, and the severe fulminant type on the other that the difficulties arise. The rash may be entirely absent in cases at either extreme; or it may be slight and evanescent and thus escape notice. The groins, axilla and loins should be closely scrutinized for the punctate eruption, and the appearance of the throat is especially helpful. Occasionally the diagnosis must be made without reliance upon the eruption, though the subsequent lamellar desquamation on hands and feet may confirm an uncertain diagnosis; or the onset of one of the complications, particularly the nephritis, or the incidence of the disease in other children in the family may serve to clear the doubt. In the anginal type cultural methods serve to differentiate the disease from diphtheria, though it is needless to remark that all streptococcal anginas are not scarlatinal.

In measles, the more gradual and prolonged invasion, with coryza, Koplik's spots, the distinctly papular, darker colored eruption appearing on the face, and the pronounced cough and frequent early bronchitis serve to distinguish the disease.

Between German measles and mild scarlatina the diagnosis is often difficult, especially in sporadic cases. The mild character of the prodromal symptoms and fever, with so extensive an eruption, is perhaps the most helpful distinguishing feature, while the longer incubation of twelve to sixteen days, if it can be determined, is distinctive. The initial rashes of variola are sometimes very confusing, and one may not be able to make a diagnosis until the true variolous eruptions appear.

Septic erythematata are, as a rule, darker in color, more patchy, more evanescent and are unassociated with the peculiar appearances of the mouth, tongue and throat which characterize diphtheria of a severe type. The temperature curve, moreover, is likely to present the wider daily fluctuations which are seen in sepsis. The drug eruptions and those attending the injection of the several curative sera, as the antidiphtheritic,

antistreptococcic and antitetanic, may superficially resemble the scarlatinal rash, but the absence of punctæ, their localized distribution and patchy character and short duration, with the absence of throat and mouth symptoms and usually of fever, will generally enable one to distinguish them. The various skin affections, excepting the rare general erythema, are, as a rule, little likely to be mistaken for scarlatina, and need hardly be discussed in this brief summary.

In scarlatina of the malignant type, when the patient is overwhelmed by the poison and succumbs within a few hours, before the skin eruption and the throat symptoms have developed, the most acute and experienced observer may sometimes be in doubt, and it is usually the presence in the family or vicinity of cases of the other types of the disease which leads to a diagnosis.

CONGENITAL STENOSIS OF THE PYLORUS.*

J. H. RICE, M.D.

QUINCY, ILL.

Baby W. was born at Blessing Hospital Dec. 4, 1906. The second stage of labor was rather prolonged, the mother showed signs of exhaustion, and for that reason forceps were applied and the child delivered. The use of the forceps was not accompanied by any untoward effects; there was no depression of the bones of the skull nor bruising about the head or face. The mother is a morphin fiend, having used the drug for seven years. The mother's father died of Bright's disease. The family history is otherwise negative.

The child lived but three days after delivery, the points of special interest concerning its clinical history being that it cried almost incessantly, on the second day there was a slight elevation in temperature and the child seemed to be in evident pain when handled, because the slightest manipulation was accompanied by paroxysms of crying. The child nursed fairly well, this appearing to relieve the crying to some extent. On the day before and on the day of the child's death vomiting was quite pronounced, the ejection of the stomach contents being accompanied by a considerable quantity of what appeared to be old blood. The latter was dark-brown in color and malodorous. The child died on the third day rather suddenly without apparent cause.

POSTMORTEM FINDINGS.

An autopsy was held four hours after death. The body was that of a well-developed and nourished male child, weighing between seven and eight pounds. Rigor mortis was pronounced and postmortem lividity just beginning. There were no signs of any external bruising or injury. On opening the skull the brain was found to be normal. There was no evidence of compression, neither were there signs of localized hemorrhage.

On opening the thorax both lungs were found to contain dark areas of various sizes, these having the appearance of hemorrhagic infarcts.

* Read at the February meeting of the Adams County Medical Society.

The left lung was more involved than the right, the areas for the most part involving the upper lobes and borders of the lungs. Section showed these areas to be of firmer consistency than the remaining portions of the lung and to be of the same dark color throughout. The heart was negative.

When the abdomen was opened I was at once impressed with the enormous distension of the stomach and the collapsed condition of the intestines. The stomach walls were tense and had a grayish-black appearance, this color later being noticed to involve the intestines as well. Further exploration revealed the fact that the pylorus was the cause of this condition. It was about three-quarters of an inch in length, white in appearance and on palpation felt hard and fibrous. The stomach was removed and later opened. It was found to be distended with gas and to contain the dark, semisolid fluid such as the child had previously vomited. There was considerable of this material, and for the most part it was adherent to the mucous membrane. Unfortunately a microscopical examination or the guaiac test was not made. There were no erosions of the mucous membrane, though near the pylorus it was thrown into more folds and had a redder appearance than in other portions of the organ. Examination of the pylorus itself showed that the lumen admitted only a small-sized probe, that the walls were unusually thickened and that on section it cut with a consistency equalling almost that of cartilage. Microscopical sections were not made.

ETIOLOGY.

As regards the cause of this condition but little is known. The following theories as to its causation have been advanced: 1. That the condition is the result of congenital developmental aberration. 2. That the hypertrophy is produced by a derangement of the nervous mechanism which regulates the contraction and relaxation of the pylorus under appropriate stimuli. 3. That it is due to gastric dyspepsia arising after birth, and hence not congenital at all. 4. That it is due to a chronic inflammation. Sex appears to play no part in the causation.

PATHOLOGY.

In the normal infant's stomach the pylorus is described as representing only a slight thickening in the wall of the tube, indefinitely marked off from the adjacent parts. In an infant of 5 months the walls have been found to vary from 1.7 to 2.5 mm. in thickness; on the other hand, the walls in a case of hypertrophy have been found to reach 5 mm. in thickness. Microscopically the hypertrophy may involve both muscular coats or the circular only, but usually the combination is that of muscular hypertrophy and fibrous thickening. There may be some swelling and engorgement of the mucous membrane, but usually this structure is not greatly changed.

SYMPTOMATOLOGY AND DIAGNOSIS.

The first symptom usually presented is that of vomiting. This does not always begin immediately after birth; it is usually slight at first, occurring some little time after ingestion of food, but gradually becoming

more and more severe, increasing with the growing irritability of the stomach. The vomitus consists, for the most part, of the ingested food, changed more or less, perhaps combined with mucus, but never containing bile. Infants with this condition then suffer from all the symptoms arising from chronic vomiting, including scanty urine, constipation and later emaciation. The abdomen, particularly in the epigastric region, is usually much distended, the lower abdomen is retracted and easily admits of palpation. The presence of peristaltic movements in the dilated stomach is of great importance in the diagnosis of this condition. It may require repeated examinations to determine the presence of these waves; the question as to whether or not they can be excited by irritation of the epigastrium as in an adult is undecided. Again, a small, hard, movable tumor can in some cases be felt in the region of the pylorus. If this is found, the presence of a hypertrophic condition of this structure is almost conclusive. In the absence of either of the latter two symptoms one would feel great hesitation in venturing an opinion as regards the presence of this condition, especially if the child is bottle fed, because often if the food is changed the irritation of the stomach will subside and an aggravated condition be arrested. However, if the child is breast fed, the presence of the other symptoms named above would lead one to suspect this condition, especially if the symptoms present were chiefly gastric, with no apparent involvement of the intestines.

PROGNOSIS.

The course of the affection is usually progressive, though remissions do occur in some cases. The duration of life in the fatal cases varies from three weeks to six months usually. Broadly stated, the affection is fatal unless relieved by surgical means.

TREATMENT.

If there is some question as regards the diagnosis, the treatment should be that appropriate to chronic gastritis. Gastric lavage, perhaps the feeding of the patient through a tube and the use of properly modified milk, meet these indications. Once the diagnosis has been established, the treatment is summed up in the one word, surgery. If the operation is done early, pyloroplasty should suffice; if there is loss of motor power and dilatation, gastroenterostomy is indicated.

VAGINAL DRAINAGE FOR PELVIC PUS.*

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CHICAGO.

The ideal treatment of accumulations of pus in the pelvis is the removal not only of the pus, but also of its source. It may merely call for the enucleation of an enveloping pyogenetic membrane or fibrous capsule.

* Read before the joint meeting of the Chicago Gynecological and Chicago Medical Societies, Jan. 12, 1907.

or it may necessitate also the extirpation of a separate focus of infection. Vaginal drainage is, from a theoretical standpoint, regarded as a makeshift, but practically it is a valuable means of obtaining radical and permanent relief.

A suppurating ovarian tumor can usually be enucleated, without rupture, by abdominal section; or if small and situated in the cul-de-sac of Douglas it may be evacuated and removed through a posterior vaginal incision. But vaginal drainage without removal of the cyst wall may be indicated when the tumor fills the pelvis, and the local conditions, as well as the condition of the patient, contraindicate an attempt at abdominal extirpation. A tardy, troublesome cure can usually be effected in this way. Ovarian abscesses, on account of their small size and lateral location, are seldom adapted to drainage from below.

Pyosalpinx is sometimes cured by vaginal drainage, but, as a rule, the infected tubal mucous membrane retains sufficient integrity to continue its septic secretion for a long time. Nevertheless, by draining freely and continuously for many months, I have effected permanent symptomatic cures in several instances. In one case in which, after making an abdominal incision, I could not safely enucleate, or thought I could not, I aspirated the pus, opened and cleansed the pus cavity, established vaginal drainage and closed the abdominal incision. The vaginal outlet was kept open for several weeks by means of a drainage tube, and the pus cavity was slowly obliterated by cicatricial contraction. The patient still complained, so I removed the Fallopian tube and ovary through an incision in the posterior vaginal fornix, but without finding any pus. The patient still complained, and was finally cured by an uneducated, quack, pelvic massagist, i. e., by suggestion. I was under the impression that the removal of the contracted tube was unnecessary, but knew that the patient would not cease complaining of the ovary and tube while they were there. In another case that had been treated for several weeks by vaginal incision and drainage before I saw her, I effected an obliteration of the pus cavity and symptomatic cure by establishing and maintaining freer drainage.

Suppurative hematoceles distending the cul-de-sac of Douglas can nearly always be cured by prolonged vaginal drainage with frequent irrigation through a double rubber drainage tube. This is also true of intraperitoneal pus collections that occupy the same position. But there is often an accompanying septic focus in the Fallopian tube which may require extirpation; and an evacuation of the pus from below may be necessary to afford partial relief and prepare the patient and the parts for the radical operation. Yet a pus tube that drains freely into an abscess cavity may recover its integrity and functions, and in such cases successful pregnancies have been known to follow. In the old days of pelvic abscesses discharging into the rectum I was able by dilating the rectal opening to introduce my finger not only into the abscess cavity, but in two cases through the somewhat contracted fimbriated end of the tube. Both patients were cured, as far as pus and symptoms were concerned, by the maintenance of adequate uninterrupted drainage through the rectal opening. I doubt not that in some of the cases in which I did

not find, and in fact was not seeking a tubal opening, there was one. At operations and postmortems I have found obliteration of the pus tube and abscess as the result of rupture and drainage below; i. e., some of those chronic pelvic abscesses used to get well by drainage. All this drainage treatment is, of course, subject to the general rule that a radical operation is the one of choice when it does not involve too much danger to life and when there is no hope of a preservation of the functions of the tube and ovary.

The question of method of treatment is apt to be complicated by the difficulty in diagnosis and prognosis. As a sort of working basis we may consider that the accumulation of pus should be evacuated per vaginam when it distends the cul-de-sac of Douglas and pushes the uterus forward toward the pubes, and when attended by local recurrent pain and increasing daily fluctuations of temperature. If there is no temperature the pus may be evacuated and the question of immediate enucleation or of drainage be considered; in the case of a pyosalpinx, enucleation; of a suppurating hemocele, free drainage.

I might say, in closing, that my discussion is not intended to be exhaustive, and has no reference to unusual conditions, such as pelvic pus due to appendicitis, tuberculosis, etc. It is given for what it may be worth as a deduction from personal experience rather than a study of statistics or current monographs on the subject.

ABORTION, WITH SPECIAL REFERENCE TO THE TREATMENT OF INCOMPLETE ABORTIONS.*

ARCHIBALD ROBERTSON SMALL, M.D.

CHICAGO.

Abortion is the expulsion of the product of conception from the uterus before the fifth month; miscarriage is the expulsion of the embryo from the uterus during the fifth and sixth months, and premature labor is the expulsion of the fetus from the uterus any time after the beginning of the seventh month and before the end of normal gestation. Abortion may be divided into three classes: 1, Natural or accidental abortion; 2, artificial abortion; 3, criminal abortion.

Natural or Accidental Abortion.—"Natural or accidental abortion may be caused by mechanical injuries to the ovum or its uterine attachment, to morbid conditions of the ovum, or to diseases of the maternal organism. Under the first head must be included not only direct traumatism, but also hemorrhages between the fetal and the maternal layers of the placenta, whether due to violence, such as falls, blows, and the like, or to a diseased state in either the mother or the ovum. The immediate cause of almost every case of natural abortion is some abnormal state of the ovum resulting in the death of the embryo, but this, in turn, may be due to some defect in the maternal organism, or, for that matter, to disease in the father, as exemplified by the frequency with which abortion takes place as the result of syphilitic contamination of one or the

* Read before the Chicago Medical Society, March 6, 1907.

other of the parents. Habitual abortion, it is well known, raises the presumption of syphilis. As regards pathological conditions of the ovum, it is generally due to disease of the placenta, or a crippling of its respiratory and nutritive functions by effused blood, that the death of the embryo is to be traced, although cases are not wanting in which the circulation in the umbilical vessels has been so interfered with as to produce the same result."—Foster.

In abortion resulting from natural causes the ovum is more apt to be thrown off completely, often without the rupture of the membranes, and in these cases there is often no interference necessary, for when the uterus is perfectly emptied there is not likely to be hemorrhage or septic infection. In such cases when abortion is threatened or inevitable, packing the vagina to check hemorrhage and stimulate the contraction of the uterus is often good practice. When this packing is removed the ovum entire may often be found outside the cervix in the vagina. Nothing further is necessary in such a case but to keep the patient quiet in bed a few days, with, possibly antiseptic vaginal douches.

Artificial Abortion.—It is sometimes necessary to produce an abortion to save the mother's life, but this should never be undertaken except in consultation with one or more reliable physicians.

Criminal Abortion.—Criminal abortions are by far the most common with which we have to deal, either brought on by the woman herself or by some one else; at least, that has been my experience.

Here the uterus is entered by an instrument in the hands of the woman herself or some unprincipled doctor. The instrument may be clean when introduced into the vagina, but when it reaches the uterus it is probably not so, for we do not expect to find much skill or cleanliness in the hands of those given to this practice. Then, too, the membranes are usually ruptured; the embryo expelled leaving the membranes behind, a mass upon which the uterus has very little power of expulsion. Part of the membranes may be expelled, but usually, at least, part of the membranes are retained. What follows? There is likely to be hemorrhage, severe and prolonged, but, more serious still, there is almost sure to be more or less septic infection in these cases. Many, many lives are lost by the neglect of this class of cases. A woman goes to an abortionist; has an instrument passed into her uterus; pays the wretch a few paltry dollars, perhaps, as the price of his crime, and goes home to bleed to death or to die from septic infection. If she be an unmarried woman she is often ashamed to call in a decent practitioner to attend her, or perhaps she does not realize the gravity of her condition and allows the infection to go too far and dies as the result.

A young woman called on me. I examined her and found her to be pregnant about three months. She begged me to produce an abortion. I refused and advised her against such a course, informing her of the great danger to her subsequent health, or even her life. She declared that if I would not help her she would get some one else to do it, which, I presume, she did, for when I sent her my bill for examination, a month later, the bill was returned, marked on the envelope "Deceased." She probably had an abortion produced and died as the result. Nothing was said about this

case in the papers; no publicity was given to it; probably a death certificate was given by some physician, and the coroner never even heard of it. Such cases are happening every day.

Many women after going to an abortionist and having an instrument introduced, or after doing it themselves, call in a physician when hemorrhage occurs, or they are threatened with blood poisoning. I remember having six such cases in one week. One woman, married, had inserted a pen holder into the uterus, which had perforated the posterior wall of the uterus. The uterus was cleaned out, but no douche was used in this case. The patient recovered without an unfavorable symptom. Another case was a young girl living at home with her mother. A neighbor woman called on me and asked me to send the girl something to relieve abdominal pain she was having. After a little inquiry about the pain I refused to do anything for her without seeing her and finding out the cause of the pain. The woman said that my suspicions were unjust; that the girl was the most quiet, modest girl in the neighborhood; that she never had any male company, and never went out alone, and that such a thing could not be possible. She came back, however, in a short time and told me that I was right; that the girl had confessed to her; that she was having excessive hemorrhage, and requested me to go and take charge of the case, which I did. The uterus was at once cleaned out under an anesthetic and she recovered without a particle of fever or trouble of any kind. The four others of the six cases met with in one week either confessed that they had brought on the abortion themselves or had an abortionist do it for them. They all recovered nicely under the treatment which I shall describe.

For more than fifteen years my treatment for induced, incomplete abortions, or for natural abortions which are incomplete, is as follows: I do not wait until the woman's life is endangered by excessive hemorrhage or septic infection, but proceed immediately to empty the uterus. If the finger can be introduced to the fundus that, perhaps, is the safest instrument to use in cleaning out the uterus, but in many cases the finger can not reach the fundus owing to the lack of dilatation of the cervix; the high position of the uterus; very thick abdominal walls, or the narrowness of the vagina.

The patient is placed on a table, if at home, the ordinary kitchen table answers every purpose very well; an anesthetic is given by a competent man, chloroform usually; the external genitals and vagina are thoroughly disinfected; the anterior lip of the cervix is seized by a volsellum forceps; the cervix dilated with a Goodell-Ellinger dilator, if necessary; the uterus is then carefully scraped out with a sharp spoon curette, using only sufficient force to detach the adherent membranes, often not interfering with any part of the uterus except where the placenta is attached. I have not used a dull curette in one of these cases for years because the dull curette will slide over the attached membranes and one can never be sure that everything has been removed. With a sharp curette one with an educated touch, which, by the way, takes some little time and experience to acquire, can tell to a nicety when the uterus is thoroughly cleaned; the uterus is then washed out with sterile water by means of a

recurrent tube; if there is any suspicion of sepsis the endometrium is swabbed with 95 per cent. carbolic acid, followed immediately with alcohol and again douched out with sterile water; the uterus is packed lightly with iodoform gauze, which is removed in twenty-four hours and not replaced, and the patient put to bed.

In miscarriages or premature labors, where the uterine tissues are liable to be very soft and easily punctured, I use an instrument consisting of a large dull loop with a fenestra. With this instrument remnants of the membranes can be caught in this loop and removed without so much danger of puncture as with a sharp curette, but in cases of abortion, during the first four months of gestation, I prefer the sharp curette, as with it I feel sure that nothing is left behind.

I have treated a very large number of abortions in this manner with the sharp curette, and not in a single instance have I had reason to regret the use of the sharp instrument; not in a single case has the uterus been perforated; neither has there been a death in any of them. Usually there is no rise of temperature after the curettement if the patient is seen in time. If, however, there is much fever before the operation it usually drops, within a few hours after the operation, to normal or nearly so unless the infection has already spread beyond the uterus. I have not seen a case of infected tubes follow this treatment, but I have known a great number of cases where infected tubes have followed abortions not treated in this way.

I will cite a few cases illustrating the results of the let-alone treatment and also of the treatment which I have recommended. I would as soon think of leaving a woman after labor at full term without removing the placenta as leaving a case of abortion after the embryo has been expelled without removing the secundines. The very same principle applies in both cases. In fact, in labor at full term the placenta would be more likely to be detached and expelled by Nature than after an abortion or miscarriage.

CASE 1.—Was called to see Mrs. K. five months after she had had an abortion. I do not know whether it was natural or produced. She had been having hemorrhage and leucorrhea ever since the abortion and was, when I saw her, beginning to have fever, which induced her to call me. I cleaned out the uterus, finding, as nearly as I could judge, about half of the secundines still in the uterus. She was in grave danger of hemorrhage and sepsis during the whole five months after her abortion.

CASE 2.—An unmarried woman came to me complaining of profuse leucorrhea and severe menorrhagia, the flow being very profuse and lasting from ten days to two weeks. The appendages were enlarged and tender. She confessed that she had an abortion produced about a year before and said that she had had the leucorrhea and menorrhagia ever since.

CASE 3.—A married woman, very much averse to having children, had had several abortions produced, but the uterus was never cleaned out afterward. I found on examination a very large tumor on the right side of the uterus pressing down against the wall of the vagina, firmly attached to the uterus and so hard as to give one the impression of a fibroid of the

uterns. In a few days it discharged part of its contents through the uterus and became flaccid, proving the true nature of the tumor. The left tube was very high up and could scarcely be felt by the examining finger in the vagina. When I operated and removed the appendages I found the right tube with very thick walls and the proximal end pervious so that it periodically emptied its contents through the uterus. The left tube was occluded, turned upward at an angle of about 45 degrees to its middle third and its distal end pointed downward forming an angle at its middle third, and in this angle was a cavity about the size of a walnut containing pus. The walls of this cavity were not thicker than tissue paper, and might have ruptured at any time and have caused septie peritonitis, exactly what did happen to another similar case of mine, who had delayed her operation a little too long; yet on examination the right side seemed the most formidable.

CASE 4.—A young married woman came to me about six weeks pregnant and wanted an abortion. I refused and advised her against such a course. She, however, went to another doctor who accommodated her. Several months later she came to me pregnant about three months. This time she wished to carry her child to term. I examined the urine, which was clear of albumin, and requested her to send me a sample of urine every month for analysis, which she neglected to do. About three months later I was called to see her. She was then suffering with pain on both sides, especially the right, at the sides of the uterus. I examined her urine and found it very heavily loaded with albumin. She was put on a milk diet and the albumin cleared up slightly, but did not disappear. The pain in the sides continued and increased. At the end of the seventh month she had symptoms of premature labor. She was put to bed and given morphia to quiet the uterine contractions, but the premature labor came on. The child was alive when born, but lived only about three hours. The placenta came away naturally in about half an hour. I examined it carefully, and in one place over the membranes I could not positively determine whether a small piece of the placenta had been torn off and left behind, or whether it had never been formed over that portion. I decided that the latter was correct. She did well for three days, when a fever of two degrees came up. I then suspected that there might possibly be something left in the uterus, especially as I had some doubt about the placenta as stated; put her on the table and cleaned out the debris, which consisted of blood clots and two small pieces of placenta, which looked fresh and clean, not septie. There was no odor and the discharges looked normal. The temperature in a few hours ran up to 103 and continued so for several days. A tumor became palpable on the right side close to the anterior superior spine of the ilium. She had severe pain and cramps on that side, and the tumor was sensitive to the touch. Feeling sure that the uterus was clean and that no infection could have been carried to the tube through the uterus at that time, and the tumor being so far from the uterus, appendicitis was thought of as a possibility. Soon, however, the proximal end of the tube filled up and could be readily felt close to the uterus as well as at its distal end. The enlargement gradually subsided and, I believe, its contents were discharged through the

uterus; the temperature became normal in a few days; the urine was clear of albumin within two weeks after the labor, and the patient made a good recovery, but the tubes are disabled. The history of this case would indicate that the tubes were infected at the time of her abortion; that when the uterus expanded the latent inflammation in the tubes became more active, which caused an exudate to be thrown out, and caused the tube to become adhered to the wall of the pelvis; that when the uterus was emptied the distal end of the right tube remained adhered to the wall of the pelvis; hence, the unusual distance from its usual site at which the tumor was found. Had the uterus been properly cleaned out at the time of her abortion the tubes would not have been infected; at least, I have never known disease of the tubes to follow in any case where I have cleaned out the uterus promptly as I have described, after an abortion.

The following cases illustrate the results of the opposite course—cleaning out the uterus thoroughly and promptly after abortions.

CASE 5.—Was called to see Mrs. F., mother of two children, about 9 p. m., who stated that she had an abortion produced and named the physician who did it. Her temperature was then 105 and she was a very sick woman. As soon as I could get an assistant to give the anesthetic I curetted her uterus with a sharp curette, removing the secundines, the embryo having already passed away. At 10 the next morning the temperature was normal and remained so. I discovered on this occasion a tumor connected with the left ovary about the size and shape of a large hen's egg. It was quite firm and hard, not sensitive to the touch. A few months later she came to me complaining of pain in this tumor. I found on examination that the tumor had increased in size to about four times its former dimensions; that it was sensitive to the touch, and advised its removal. I removed it by laparotomy and found it to be a dermoid cyst, filled with pus, hair, bones, etc. I noticed particularly at the operation that the tube on the left side was normal, as were the tube and ovary on the right side, proving that the tubes had not been infected at her recent abortion. She subsequently became pregnant twice.

CASE 6.—Mrs. W., a young married woman, pregnant three months, and very anxious to have a child, was frightened at seeing an accident in the street. A few days later she began to have pains and was threatened with an abortion. She was put to bed and given morphia to quiet the pains, but the embryo was expelled, leaving the secundines behind. I curetted as described, removing the secundines and also a large amount of granulations, which were probably the cause of the abortion. She recovered without a particle of fever and has never enjoyed as good health as since that time. She is now the mother of a fine child 1 month old.

CASE 7.—Mrs. B., mother of two children, had an abortion and when I saw her the embryo had escaped. Found her with a temperature of 103. The uterus was curetted as described and the temperature within a few hours dropped to normal and remained so. No trouble since.

I could give a great number which I have treated in this way, and in not one of them have I had reason to regret this course; in not one of them have the tubes become infected; many of them have subsequently become pregnant and have gone normally to term; the convalescence has

been uniformly smooth and uneventful. I could also cite a great number of cases which have come to my notice which have been treated by trusting to Nature to throw off the secundines, where the tubes have become infected and the future health ruined, and some where even life itself has been sacrificed. There is no work that I do with more satisfactory results than this operation of curetting the uterus with a sharp curette promptly after incomplete abortions.

In my first fifteen years' practice, before I adopted this method, I sometimes had trouble after abortions, such as hemorrhage, sepsis, etc., but during the past fifteen years, since adopting this practice, I have had no trouble with them and no regrets at not having performed my duty to my patients. After this operation I can go home and go to sleep, feeling sure that my patient is safe, that she is in no danger of bleeding to death or of dying from sepsis. I have tried the dull curette, removing all that I could with this instrument, and afterward, in the same cases, used the sharp curette, bringing away a large amount of material which I had failed to bring away with the dull one, as it passes over the adhered membranes without giving any sign to the operator, or dislodging the membranes, unless an unwarranted amount of force be used. Nevertheless, I do not believe that the sharp curette is a safe instrument in the hands of an inexperienced man in these cases. Experience should be gained in the use of this instrument in non-pregnant uteri, many of which require curettement for other reasons.

34 Washington Street.

THE NEED OF PUBLICITY IN VENEREAL PROPHYLAXIS.*

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CHICAGO.

The venereal diseases exist and have always existed. They cause among adults the greatest morbidity and much suffering and distress of mind. They occur also in children and may be acquired innocently, that is to say, without sexual intercourse. Often the young wife, whose husband is ignorant of the possibilities of infection, is made an invalid for life or becomes a candidate for the operating table. This great venereal plague, which is omnipresent, counts its thousands of victims. It blights many an unborn child, and is often the cause of blindness in the new-born. It is a destroyer of health and happiness; it tends to sterility. With the hope of children annihilated, the foundation of the family becomes insecure and the way is open for marital infelicity and divorce. Beyond question the venereal diseases are a potent element in adding to the misery of mankind, and as a disturber of our social relations they certainly play a leading rôle.

How important, therefore, is a recognition of this great curse of humanity; how necessary that all should know of the imminent danger

*Presented to the Fifty-sixth Annual Meeting of the Illinois State Medical Society, held in Springfield, May 15-17, 1906.

that lies in wait for every man, woman and child. How essential, then, a factor in our education should be the inculcation of adequate knowledge regarding the possibility of venereal infection, and how imperative should be an extension of the truth in reference to this devastating scourge of our civilization. And yet it is only a year ago that any concerted effort in this country was put forth looking toward a rational prophylaxis of these diseases. It is only since February, 1905, since the organization of the American Society of Sanitary and Moral Prophylaxis by Dr. Prince A. Morrow, of New York, and other eminent practitioners, that any systematic attempt has ever been made to limit the spread of these loathsome diseases by a common-sense education of the public in the understanding of the danger that threatens everybody.

Prior to that time, as I know from personal experience, the way of the would-be exponent of the truth was not a path of roses. Even his most sincere efforts were condemned,¹ and every attempt to secure a hearing was often considered an outrage. The medical profession would not listen. The subject was too obnoxious and the whole matter was apparently so loathsome that even the mention of it was intolerable and most reprehensible. If by any possibility a man ventured to say an earnest word in protest, professional opinion would exert itself, as exemplified by Howard Kelly's criticism of a paper I presented by invitation in 1899 at the Columbus meeting of the American Medical Association, when Dr. Kelly said: "The discussion is attended with filth, and we besmirch ourselves by discussing it in public." As further evidence of the hesitancy of the profession to take up this matter before the public I recall the experience some fourteen years ago of Dr. Ferd. C. Valentine of New York before the American Medical Association. One member remarked that this is a Christian country and our association is a Christian association, and that no such vile thing as venereal diseases should ever be allowed to come before the Christian American Medical Association.² Two years ago, however, Dr. Valentine appeared by invitation before the Conference of State and Provincial Boards of Health of North America at its nineteenth annual meeting, held in Washington, D. C., and discussed freely matters in reference to the segregation of prostitutes, the methods of examination for venereal diseases and the means of educating the public in a knowledge of the danger that confronts the young and the ignorant. It was apparently a bold thing to do, for the secretary, Dr. Gardner T. Swarts, of Providence, R. I., said regarding this attempt at a rational education along preventive lines: "Such a movement is a sensational and questionable one with many." The effort of Dr. Valentine made a profound impression. His recommendations were very generally concurred in; he was tendered a vote of thanks, and, at the suggestion of the president, Dr. J. N. Hurty, of Indianapolis, he consented to forward his paper to THE JOURNAL of the American Medical Association for publication. His remarks on that occasion are noteworthy. They show why honest men

1. Denslow Lewis: The Gynecologic Consideration of the Sexual Act, p. 20.

2. Proceedings of the Nineteenth Annual Conference of State and Provincial Boards of Health of North America, p. 62.

persist; they demonstrate the motive that actuates the true humanitarian. He said: "Titles, as we grow older, lose their glitter; the degrees we have received grow tarnished. One grows ambitious for a higher honor—that of doing good."

So the first great obstacle to a rational understanding of the subject is surmounted. It is now admitted we must seek the truth; it is recognized that we must diffuse the knowledge we already possess; it is realized our endeavor must be earnest and our study of the subject comprehensive. The first step has been taken; the value of publicity is acknowledged.

In considering the truth regarding the venereal diseases we must acknowledge first of all the dominating influence of the sexual instinct. Why should we not? It means the perpetuation of the species. It is the most important function of which any man or woman is capable. Did it not exist the human race would come to an end in one generation. It is a pure and noble function, and we must not only recognize its existence, but also admit the facts regarding its manifestation and the very serious results that follow its misapplication or perversion.

With the admission of the importance of this function should come also a realization of the necessity of accurate knowledge regarding all incidents in its manifestation. If it is the ruling function of our existence, does it not follow that thoughtful consideration of it is a most serious duty of every earnest student, and that knowledge regarding its every detail is a matter of exceptional interest and most serious inquiry? This is a fact, always acknowledged in theory, but now for the first recognized in practice. We admit the existence of this function. We know its forceful influence on our lives. We acknowledge its supremacy. We deal with it and do not ignore it or deny its existence. This is the second step necessary to a rational consideration of venereal prophy-laxis.

My individual views regarding methods of instruction along these lines have been often expressed.³ The subjects of masturbation, rape, criminal abortion, infanticide and divorce are concerned in a consistent effort of an educational character in reference to the venereal diseases. With the approach of adolescence comes a realization of the awakening of the sexual instinct. The boy wonders what this new sensation may mean. His school fellows are ready with fanciful explanation, and oftentimes but little urging is needed to induce the indulgence in masturbation or the premature exercise of the newly developed function—the necessity of such action, as indicated by his schoolmates, being in accord with his own inclination. The boy knows of no danger. No one has told him. Why should he not do as the other boys are doing? When seminal emissions occur he is told, and he often believes, that the performance of the sexual act is imperative to conserve health and prevent imbecility. If there is impropriety, wrong doing or danger, why has he not been warned? He has been told about brushing his teeth and

3. Denslow Lewis: The Limitation of the Venereal Diseases, *Medico-Legal Jour.*, June and September, 1903.

taking a bath; he knows he must learn his lessons and conduct himself with decorum at the table. Let us now understand our duty and tell him the truth about sexual instinct and the need of controlling it. Let us pacify and dispel his fears and teach the dignity of virility. Let us inculcate principles of honor toward the young girl and let us explain regarding the danger of venereal infection.

With the girl the need of actual knowledge is of even greater importance. One mistake on her part, if discovered, blasts her reputation for life. Indiscretion in the boy is ruin for the girl. She is never forgiven. Moreover, in addition to the danger of masturbation, unnatural practices and infection, is the danger of conception, which usually means criminal abortion or infanticide, and too often a life of prostitution. In my own personal experience I have known of hundreds of cases where ignorance has been responsible for the ruin of the young girl. Many a worthy family of high social position mourns to-day the loss of a loved one who might have been the wife of an honest man had she been told regarding the possibilities. There are men and women in exclusive society who have wealth, reputation and honor, and yet their lives are embittered by the knowledge, which they hide from the world, that a daughter, through lack of instruction and warning, is now an outcast.

In the case of the working girl the danger is much greater and with her the withholding of knowledge becomes, in my opinion, criminal and heartless. Her position in the world is less remunerative than man's, and the strenuousness of competition in business is often enhanced by the importunity of employers, customers and other male acquaintances. A little sympathy and a few extra dollars often induce her, in her ignorance, to be complacent. How unjust is our civilization and how farcical is our pretended Christianity if we do not go to the assistance of every young girl whose necessities force her to contend against this danger, which means seduction, disgrace, crime or venereal infection.

I want the young people throughout our country to know the truth. They must know hygiene and physiology—the physiology of the whole body. They must know how the sexual instinct manifests itself, how it can be controlled until such time as marriage permits its indulgence in the furtherance of its legitimate object. They must know regarding reproduction, and the girl especially should realize how her indiscretion may result in conception or venereal infection. Our only hope for the coming generation is in knowledge. If we are sincere in our humanitarian endeavors, let us cast aside all thought of false modesty and maudlin sentimentality, and let us warn the young against the dangers that confront them by a consistent exposition of the truth. Herein is the only possibility of effective prophylaxis.

Permit me an additional word regarding the Society of Sanitary and Moral Prophylaxis. I am the first Illinois member, and for that reason I now impose on your courtesy and bespeak your active interest in the work of the society as others are doing in the different state medical societies throughout the country. In Dr. Morrow's presidential address he says: "A free discussion is, of course, an essential preliminary to any well-considered action, especially when such action proposes to deal with

what is confessedly the most difficult of all the problems of social hygiene."⁴ In speaking of the proposed work of the new society, he says: "It should be a campaign of education, a crusade against ignorance." In justification of such action he adds: "There exists in all classes of the public the densest ignorance as to the dangers of these diseases and their modes of communication, direct and indirect." Referring to the need of knowledge of the sexual act, he remarks: "Young men should be taught that the reproductive function is given for a higher purpose than mere sensual gratification, that it is susceptible of control, discipline and proper direction;" and in protest against the false modesty that so long has interfered with the inculcation of a knowledge of the truth, he continues: "The chief obstacle to the dissemination of this prophylactic enlightenment inheres in the very name and nature of the diseases themselves, or, rather, in the atavistic impregnation of the public with the idea that knowledge of the reproductive system and its diseases is shameful and even demoralizing, that such knowledge is not proper or fitting for the young." He says, further, and most truthfully, as we are all forced to acknowledge: "The entire system of our educational machinery is organized upon a basis of silence and secrecy in regard to the reproductive function, which, from a biologic point of view, is the most important function of the body. It would appear that the aim of parents and instructors is to give the young, when launched into the world, a brevet of ignorance of all matters pertaining to sexual hygiene."

I take pleasure in quoting these statements, for they coincide with the views which I have so often expressed during the past seven years. Publicity is, indeed, the first essential; knowledge of the truth is, in effect, the greatest safeguard. Bulkley and Margaret Cleaves have shown the need of education in sexual hygiene for the young men and women of the working classes.⁵ Bangs and Grandin have asserted that the general public should be enlightened as to venereal diseases.⁶ Bransford Lewis has shown the absurdity of false modesty.⁷ Education is our strongest weapon and the most rational means at our command in the fight, not only against the venereal diseases, but also against rape, criminal abortion, infanticide, marital infelicity, divorce, prostitution and sexual perversions and crimes. It will diminish masturbation and save many a young girl from seduction. It will restrict illegitimacy; it will tend to make the marriage contract a surety against the transmission of disease, and the perpetuation of degeneracy; it will help answer the alcohol question; it will add to the health and happiness of humanity.

The general proposition is now very well understood, and the great majority of the thinking men in the profession acknowledge the advisa-

4. Prince A. Morrow: *The Society of Sanitary and Moral Prophylaxis: Its Objects and Aims*, *American Medicine*, Feb. 25, 1905.

5. L. Duncan Bulkley and Margaret Cleaves: *Interstate Medical Journal*, March, 1906.

6. L. Bolton Bangs and Egbert H. Grandin: *Charities and the Commons*, Feb. 24, 1906.

7. Bransford Lewis: *Some Unrecognized Responsibilities of Press and State in Conserving Health*, *Lancet-Clinic*, Nov. 18, 1905.

bility of instruction, and are coming pretty generally to a conclusion regarding the best means of furnishing the necessary knowledge.

The existence, then, of the venereal diseases should be made known to all and the possibility of innocent infection should be explained. Why not? The danger is imminent, the results are dangerous, the only possibility of safety consists in knowledge of the facts and means of prevention. Do not say it is immodest. Would we hesitate, on account of modesty, to save a woman from drowning in the river just because she was nude? If we would not, we must not deny to those who are in danger of disease and death that knowledge which alone can save them. If we persist in such denial we do not regard, as our first duty, the preservation of the human race, and we share in the responsibility of destruction by ignoring what we know to be the most rational means of prevention. It becomes, therefore, the duty of every practitioner of medicine, now more so than ever before, to give instruction regarding the venereal plague in its different relationships. Ignorance has been the curse of the past; knowledge will prove the salvation of the future. Prudery shall no longer deter us in the performance of our duty. With a persistent effort, with combined endeavor we will dissipate the darkness of ignorance by an exposition of the facts that we know. Fearlessly, confidently, resolutely let us bear the great light of truth into the world.

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MAY 1907.

PRESIDENT J. F. PERCY'S TERM OF OFFICE.

In this issue will be found a portrait of Dr. J. F. Percy, president of the Illinois State Medical Society for the year ending with the annual meeting at Rockford, May 22, and a list of the societies and states that he has visited during his term of office, which shows that Dr. Percy has given an unusual amount of time and effort to the service of the State Medical Society, and also shows a remarkable change in the requirements of the office of president. Up until the last few years the president was elected at the annual meeting, paid little attention to the society with the exception of attending the meeting of the executive committee about the first of each calendar year, and then presided at the business sessions during the annual meeting. With the advent of the new constitution and the formation of county and district societies all this has been changed and the president has necessarily spent a great deal of time in looking after the interests of the state organization.

Since 1900 from year to year an increasing number of calls has been made upon the executive officer, and we believe that President Percy's term indicates the high-water mark of effort in this office. President Percy deserves a great deal of credit for the thorough manner in which he has undertaken his duties, and will leave the office with the respect

and gratitude of the entire medical profession. One object we have in calling attention to this matter is that future aspirants for the office of president may understand what is expected of them and that the members of the society will no longer be satisfied with an ornamental officer who is unwilling to give a large part of his time and energy to the office. What this society requires each year is a tireless worker, one that can originate ideas for the benefit of the profession. The Illinois State Medical Society has been, indeed, fortunate in having men fill the presidential chair who have not lost interest in the work of the society after they have left that office, and we know that Dr. Perey will take the same position and return to the ranks the same tireless worker for the society that he has been in the past years.

THE ROCKFORD MEETING.

In this issue will be found the letter from the local committee of arrangements at Rockford, which, we understand, has also been mailed to every member of the state society and a number of other physicians in the state. The committee has made an able statement of the arrangements already perfected, and everything seems to indicate an unusually successful meeting of the members of the state society. We understand a large number of automobile enthusiasts will make the trip from Chicago by this new means of locomotion. What the members of the state society who attended the meeting in 1858 would think of this manner of going to the meetings can be better imagined than described. We can undoubtedly look forward to the time when Illinois will be covered with hard roads and the meeting will be attended by physicians from all parts of the state, traveling in their own conveyances, at the rate of thirty miles an hour, and thus have a reversion to the original plan of travel, excepting that the means of locomotion will have been changed and the pleasure, convenience and speed of the trip will be enhanced. Dr. Hollister states that he was three days getting back from Rockford to Chicago. The gentlemen who will make the trip in automobiles will consume about as many hours.

Those members of the profession coming from the south will probably find it more convenient to go directly to Chicago, Monday night, and take the train from there to Rockford early Tuesday morning.

The delegates especially should be on hand early, as there is a large amount of business to be transacted. Those members expecting to attend should communicate with the committee of arrangements at once regarding accommodations.

DR. EVAN'S APPOINTMENT.

At the spring election in Chicago Mr. Fred Busse, one of the ablest politicians in the state, was named for mayor, and very soon demonstrated his political acumen as regards medical appointments by stating that he intended to consult the members of the Chicago Medical Society and appoint the physician recommended by them to the important position of health officer of that metropolis. A committee of

about twenty-six was named for the purpose of selecting a candidate for the appointment, and, after a short preliminary skirmish, decided to recommend Dr. W. A. Evans, ex-president of the Chicago Medical Society, for the office. Dr. Evans is admirably adapted to this work both by reason of his professional training and also because of his business capabilities. That he will make a record for himself and the department we firmly believe. He has an excellent opportunity of doing a great deal of good, not only for that city, but for the medical profession of the city, state and nation. Should this political departure of Mayor Busse in the suggestion of this appointment be justified, physicians in every other community can hope to have a similar stand taken by the appointing power, and a new era will dawn, at least in the state of Illinois, in which state professional suggestions have been for so many years ignored to the great detriment of the public service.

We congratulate the mayor and people of Chicago in this matter and Dr. Evans for the compliment which has been placed upon him in the manner of his selection, and predict great success for the health department of the second city in the Union.

COL. GORGAS HONORED.

Col. William C. Gorgas, long time an officer of the medical department of the United States Army, has been signally honored by President Roosevelt in being appointed a member of the Isthmian Canal Commission. By this act President Roosevelt has not only done justice to an officer who has, through his long career, ably performed the duties coming to his hands, but he also has conferred an appreciated honor on the medical profession which Col. Gorgas represents. Owing to his official position Dr. Gorgas has not become known to any great number of his colleagues in this country, but those who are acquainted with him esteem him highly, and firmly believe that the favorable commendations which he has won in the past will be greatly increased by his work in the future. Col. Gorgas had much to do with the remarkable sanitary conditions of the army in Cuba in 1898 and subsequent years and has already repeated this record in his work on the Isthmus. He went about this stupendous task quietly, carefully and thoroughly and, notwithstanding the political antagonism which has at times existed and the red tape with which he has had to contend, has brought order out of the sanitary chaos which threatened for a time to cause a repetition of the disastrous record of the French canal diggers. The results obtained have shown that much, if not all, of the diseases occurring in tropical climates can be eliminated by the application of modern scientific principles. Contagious diseases especially can be controlled and infectious diseases, by thorough drainage, can be eliminated.

We congratulate Col. Gorgas on the high honor which he has received and trust that his life may be spared to see the completion of this monumental undertaking. When the canal is finished he should be made Surgeon General of the Army as an expression of the highest regard of the Nation.

DR. PERCY'S PRESIDENCY.

In a few days the term of office of Dr. J. F. Percy as president of the State Society will terminate. It has been so full of work and usefulness that we take this occasion to present to the members of the State Society a portrait of Dr. Percy and a statement of the work outlined by him during the past year. A reference to his itinerary will show that President Percy has spent nearly forty days away from his business in looking after the interests of the organization, and no doubt has spent a large percentage of his income during this year in the work. Such service to the state organization should not go unnoticed. Nor has this work been unfruitful of good. In every portion of the state Dr. Percy has lifted his voice for the interests of an organized profession and attacked the abuses which have crept in owing to the lack of organization and cohesion of the members of the State Society. He has pleaded for a larger view of the duties of the medical profession. He has endeavored to bring about a more cordial relationship between the State Society and the State Board of Health, and has insisted that the members and the secretary of the State Board of Health should be practically appointees of the state societies.

To those older members of the State Society the amount of time given to the office will be a revelation. Prior to 1900, almost without exception the president of the State Society devoted four or five days a year to the duties of that office. Since that time the amount of service required has increased from year to year and reaches high water mark with this administration. How long the State Society will be willing to accept the amount of service required of its president without at least paying his traveling expenses is a proposition which we hope to have taken up at the Rockford meeting. We are sure that Dr. Percy has set an example which will necessitate great care in future elections to the presidency. No lazy man can hereafter be considered for that office. Although every county in the state has been organized, active work on the part of the president will be necessary to continue and perfect the work of the State Society. This completion of organization, instead of lessening the work of the president, should increase it.

At the conclusion of his remarkably successful administration we congratulate Dr. Percy and tender him, on the part of his colleagues, our heartiest thanks.

ITINERARY.

May 30, 1906.—Esculapian Society at Robinson, Ill. Address: "The State Society in Relation to the District Organization."

June 28, 1906.—Judicial Council Meeting at Chicago.

July 11, 1906.—Stephenson County Medical Society at Freeport. Address: "Progress and Work of the State Society."

July 12, 1906.—Joe Daviess County Medical Society at Warren. Address: "Progress and Work of the State Society."

July 25, 1906.—Meeting of the Medicolegal Committee at Chicago.

July 26, 1906.—Brainerd District Medical Society at Clinton. Address: "The Illinois State Medical Society and Some of the Things It Stands For."

July 26, 1906.—Visiting with Profession at Bloomington.

Aug. 9, 1906.—Jackson County Medical Society at Carbondale. Address: "The Illinois State Medical Society and Some of the Things It Hopes for from the Southern Part of the State."

Aug. 10, 1906.—Chicago. Conference with Committee on Tuberculosis, Illinois State Medical Society.

Sept. 14, 1906.—Greene County Medical Society at Whitehall. Address: "Some Phases of County Society Work which Concern the Illinois State Medical Society."

Oct. 1, 1906.—Hancock County Medical Society at Augusta. Address: "What the State Society Has a Right to Expect from the Individual Member of the County Society."

Oct. 5, 1906.—Meeting of Committee on Insurance, A. M. A., with Dr. J. N. McCormack at Chicago.

Nov. 1, 1906.—McLean County Medical Society at Bloomington. Address: "Borderland of Insanity."

Nov. 5, 1906.—Henderson County Medical Society at Stronghurst. Address: "The Relation of Physicians to Each Other in the County Society."

Nov. 8, 1906.—Tazewell County Medical Society at Pekin. Address: "How the Social and Material Interests of the Profession are Extended by the Profession Being in Close Affiliation with the County, State and National Association."

Nov. 12, 1906.—Sangamon County Medical Society at Springfield. Address: "The Teacher of Science."

Nov. 12, 1906.—Chicago. Conference with Medicolegal Committee of the State Medical Society.

Nov. 15, 1906.—Bureau County Medical Society at Princeton. Address: "Some of the Things that Should be Accomplished by County Societies."

Dec. 4, 1906.—North Central Illinois Medical Society at Ottawa. Address in afternoon. Toastmaster at banquet in evening.

Dec. 11, 1906.—Carroll County Medical Society at Mt. Carroll. Address: "General Conditions in Illinois Along Medical Lines that Should Originate with the County Society."

Dec. 13-15, 1906.—Washington, D. C., as Member of Legislative Committee of American Medical Association.

Jan. 2, 1907.—Judicial Council Meeting at Chicago.

Jan. 14, 1907.—Adams County Medical Society at Quincy. Address: "The Illinois State Society and Some of the Things It is Striving to Do."

Jan. 19, 1907.—Chicago. Committee on Medical Education of the Illinois State Medical Society.

Feb. 1, 1907.—Chicago. Meeting of the Trustees of the American Medical Association.

Feb. 4, 1907.—Rockford. Meeting of the Committee of Arrangements of the Illinois State Medical Society.

Feb. 13, 1907.—Meeting of the Committee on Medical Education of the Illinois State Medical Society.

Feb. 13, 1907.—Chicago. Banquet of Trustees of the American Medical Association. Address: "Fake Medical Colleges as Found in Chicago."

Feb. 14, 1907.—Springfield. Meeting of Legislative Committee of Illinois State Medical Society.

Feb. 15, 1907.—Morgan County Medical Society at Jacksonville. Address: "Opposition as Means of Stimulating Individual and Professional Growth in the Physician."

Feb. 22, 1907.—Creve Ceuer Banquet at Peoria. Conference with Governor Deneen.

Feb. 26, 1907.—Springfield, with Appropriations Committee in interests of State Board of Charities.

March 8, 1907.—Chicago. Conference with Dr. George W. Webster, President of State Board of Health, to try to arrange program which the Illinois State Board of Health and the Illinois State Medical Society can join in More Constructive Work.

April 1, 1907.—Conference at Davenport with Dr. J. N. McCormack in reference to State Society matters.

April 2, 1907.—McDonough County Medical Society at Macomb. Address: "Medical Ethics of the Past and Medical Ethics of the Future."

April 5, 1907.—Chicago. Conference at the Great Northern Hotel: The State Board of Health and the Illinois State Medical Society with the Officers of the Physio-Medical, Eclectic and Homoeopathic State Medical Societies.

April 23, 1907.—Macon County Medical Society at Decatur. Address: "The Next Few Years in the Illinois State Medical Society."

April 25, 1907.—Pike County Medical Society at Pittsfield. Address: "The Future of the Illinois State Medical Society."

April 29, 1907.—Chicago. Meeting of the Committee on Medical Education.

May 2, 1907.—Petersburg, Ill. Banquet to Dr. J. W. Newcomer. Address: "The Medical Profession of Illinois: Its Past, Present and Future."

Special Article.

JOINT LOCAL LIBRARIES.

JOSEPH ROBBINS, M.D.

QUINCY, ILL.

The records of the rapid advance of medical science and of the results of experience along its increasingly various lines are already so voluminous that comparatively few members of the profession can afford to own even the most important part of them individually. But in any community where a considerable number of physicians are within reasonably close touch with each other, the professional literature, whose accessibility is one of the chief conditions of all growth, may, by joint effort, be brought within the reach of the most impecunious. A demonstration of this in a city of 40,000 inhabitants furnishes the motive of this communication.

The county medical society having its permanent meeting place in this city, is one of the oldest in Illinois, antedating by some years the state society, and now embraces within its membership well nigh every reputable physician in the county. But it had no library, although the desirability of such an adjunct, which had long been recognized, had developed into a manifest necessity under the rapid growth of medical literature. The largely scattered membership of the society, covering a radius of from twenty-five to thirty-five miles from its working seat, and lacking railroad communication in many directions, at once suggests the difficulty of equitably distributing the burden of maintaining such a library and explains the natural apathy of distant members. Under these conditions a half-dozen city members of the society incorporated a medical and library association designed, through the pooling of their means, to bring the most essential and helpful medical literature within the reach of every member, regardless of his financial ability, and to lay the foundations of a library of great educational value, which in itself, as well as in the process of its building, should be potent in unifying the local profession.

These purposes have been so far realized, and at such comparatively trifling cost, as to warrant the belief that some details of the work of the association may be of value, and encouraging to others.

The management is in a board of directors elected annually by the association, the board choosing from its own number the working officers, a president, vice-president, secretary, treasurer and librarian.

The revenues are derived from a joining fee of five dollars; annual dues of four dollars, accruing quarterly, and emergency assessments which may be levied by a vote of the association. The latter, however, have rarely been found necessary, having been resorted to but two or three times in ten years, to meet bills for new shelving, or for monthly installments due on expensive works bought on time payments, and maturing midway between the period when quarterages became due. As a rule, these lean periods of revenue have been tided over by the advance payment of dues, volunteered by those who could conveniently do so, and were duly credited.

The initiation fee was a necessity at the outset, in order to secure the economical advantage of clubbing rates (based on advance payments) in subscribing for the periodical literature which constitutes the circulating department, but it need not be continued after the regular dues—paying membership becomes sufficient to meet the current expenses of the institution.

In the management of the circulating department, each periodical received passes in regular rotation through the hands of the members, beginning with A, each of whom may retain it a week for its first reading; its next successor begins its journey with B, and so on through the list. This periodical literature, after having thus served its primary purpose, is bound and takes its permanent place on the shelves to become accessible like the rest of the library to all practitioners whether members of the association or not.

During the ten years' existence of the library association the total amount paid into its treasury has been, in round numbers, nine hundred dollars. For the small sum of ninety dollars a year, therefore, an average membership of about fifteen has had the cream of the periodical literature in every department of medicine and surgery and has built up a library upon whose accession over twelve hundred and fifty volumes have already been entered, including standard works of recent issue and reflecting the latest scientific thought.

Its growth by donations illustrates the familiar truth that libraries are magnetic when their permanence is once assured, attracting to themselves works of increasing value as it becomes more and more apparent that their usefulness will be widened thereby. Beyond this, space need not be taken for comment. An ounce of example is worth a pound of exhortation.

Correspondence.

FEES IN PIATT COUNTY.

WHITE HEATH, ILL., April 2, 1907.

Mr. Editor:—Some months ago I wrote you, telling of the stand Piatt County had taken for a raise in prices for professional services. I stated in that article that every active physician in the county had signed the new rate and that we had no cheap "Charleys" in the county, but I am now writing you a little different.

We took the people into our confidence and told them what they might expect, and had our new fee-bill published in almost all the papers in the county, just to show them that we felt our cause was a just one and that we felt the good judgment of our people would call forth a hearty approval of our actions, but in this we were never more mistaken. Many in whose esteem we thought we stood most high said all kinds of hard things about us at their little meetings at the postoffice, and in some localities would almost refuse to speak to their old family physician. Our new rate was often misquoted and we were misrepresented and our purpose misunderstood. This went on for two or three weeks and then gradually died out and now we hear nothing of it at all, but it did not die out till it had developed a few "Cheap Charleys" in our midst. This little test has served to show us that some of the members of the profession in this county have very, very weak quadriceps extensors and that the contractile power of the extensor muscles of the lower extremities has been absorbed by the flexor muscles of the same. This is the diagnosis the rest of the profession of the county has made, but when it comes to treatment we are stuck, and appeal to you for aid and consultation. We have thought that, the whole muscular system being supplied with contractile power, as it is, from the great nerve center, perhaps, if it be possible, to send the nerve centers in question to some good specialist and have them treated to another coat of some substance that would restore the proper equilibrium and poise, would likely be the best thing we could do.

The hottest of the fight on us because of the new fee-bill was in Cerro Gordo, where the people held mass meetings, passed resolutions condemning the act of the profession and refusing to patronize any physician who belonged to such an organization, and threatening to import other physicians to do the work here. So very hard and vigorous was the fight against the profession in Cerro Gordo that few would have stood as they did; not a man faltered, not a man saw fit to retract from the stand taken, for he knew he was right, and that right must at last prevail. So nobly did every member of the profession stand by his conviction, by his fellow-practitioners and by the profession at large that our society, at its last meeting, voted to extend to the physicians of Cerro Gordo a vote of thanks for the manner in which they had defended themselves and the profession. We heartily commend the physicians of Cerro Gordo to the profession of Illinois and the nation as being men on whom you may at any time and under almost any circumstances rely for help in any cause that is right and just. They are made of the kind of material that is found in great men. They are worthy of congratulations at your hands.

I will say, in conclusion, that if any county in the state wants to raise their fees and raise themselves, not only in the estimation of the profession, but also in the estimation of their patrons, after they have had time to think it over coolly, I shall take a pleasure in doing anything I can to help the good work. One little hint I want to drop, and drop so hard that every physician in the state may hear, and that is, to never give publicity to your new fee-bills, for the people will not appreciate what was intended for kindness and justice. Make your fees and let them go quietly, yet firmly, into effect. Then the opposition will not be so united.

Fraternally,

B. L. BARKER, M.D., *Secretary.*

DR. SMITH ON OUR ADVERTISEMENTS.

RED BUD, ILL., April 16, 1907.

To the Editor:—The April number of the ILLINOIS MEDICAL JOURNAL is at hand. On pages 442 and 443 you make the statement that the official organ of the Kentucky State Medical Society has adopted the rule "of accepting only advertisements for those preparations that have been approved by the Council on Pharmacy and Chemistry of the American Medical Association." And then you proceed to say: "The Illinois and California journals having already taken this stand, an active campaign will at once be commenced to induce all journals to take a similar position."

I have read the published reports of the Council on Pharmacy and Chemistry with great interest for two years, and can not believe that the Council approves of such preparations as Lactopeptine, Antiphlogistine, Vitogen, Listerine, Dermatic soap, etc. all of which you advertise in the columns of our state journal. I can not reconcile the facts in the case with your editorial from which I quote above. Respectfully,

G. D. SMITH, M.D.,

Secretary Randolph County Medical Society.

CONTINUATION OF CORRESPONDENCE BETWEEN THE
ILLINOIS STATE BOARD OF HEALTH AND
DR. McCORMACK.*

During the month of April, 1906, Dr. J. N. McCormack, of Bowling Green, Ky., chairman of the committee on organization of the American Medical Association, made a trip through Illinois, lecturing to physicians and laymen on various topics. His itinerary covered thirty cities in the one hundred and two counties of the state.

Dr. McCormack's visit to Illinois called for more than a passing notice from the Illinois State Board of Health, in view of the statements attributed to Dr. McCormack by newspapers of counties in which he spoke. The newspaper reports at that time represented Dr. McCormack as expressing views on the sanitary and medical laws of Illinois and the manner of their enforcement, which indicated clearly that he had failed to fully inform himself in regard to these matters in the state. While it was regarded as doubtful that Dr. McCormack had made some of the remarks attributed to him, and while allowance was made for the far too frequent garbling of the press, the repeated allusions to his criticisms demanded some authoritative reply that would set right the popular opinion created by his apparent misconception of facts. Dr. McCormack's reported criticisms and the remarks concerning them are set forth on pages 67-69 of the *Bulletin* for June-July, 1906.

In the *Journal of the American Medical Association* of January 12, 1907, there appears a belated report of Dr. McCormack's Illinois tour. In this report Dr. McCormack discusses his itinerary; dwells briefly on organization as he found it; discourses on the antagonism to health and medical laws prevailing among the legal profession (which was kindly tempered by the encouraging desire manifested by members of this profession for practical information, after listening to Dr. McCormack's talks); details the results of his inquiry to ascertain why the medical laws of Illinois are not properly administered; expresses conviction that the medical laws have been practically broken down, and that the people do not receive the protection to which they are entitled; points out the spirit of apathy and hopelessness prevailing, which militates against an improvement and enforcement of the health and medical laws; gives his impressions as to the genesis of the evils existing; indicates the methods which should be followed in the appointment of members of the State Board of Health; demonstrates the importance of a co-ordination of forces in securing and enforcing health legislation for cities, towns and county districts, and shows how this can be brought about "without any change in the personnel of the board;" proposes certain remedies for the amelioration of "existing conditions," which, in Dr. McCormack's opinion, "should be considered intolerable;" offers suggestions, doubtless in the kindest spirit, to the officers of the State Board of Health and State Medical Society, and, in conclusion, ventures to prophesy the "dawn of a new day for the power and influence of the profession of

* Copied from the Illinois State Board of Health Bulletin, February, 1907.

Illinois," if what he advises "be taken by all concerned in the spirit in which it is written."

The report is in many ways vague and indefinite, due, no doubt, to a desire on the part of Dr. McCormack to present things fairly, but without sufficient knowledge of the facts to give him any degree of self-confidence. Dr. McCormack undoubtedly deals with conditions throughout the state as he saw them and as they were shown to him—he reflects the impressions which were brought within his range of vision. He frankly admits the complexity of his view. In fact, in reading this report carefully, one is impressed that Dr. McCormack has been given a one-sided view of the medical profession and of medical conditions in Illinois, with so many gaps and lapses in the contiguity of the picture, as to leave him hardly prepared to present a report of any kind. This doubtless accounts for the fact that, while after visiting other states, his reports have been published promptly upon the completion of his tour, he has devoted three-quarters of a year to prayerful meditation before undertaking the discussion of Illinois conditions, based upon the material at hand.

As officers of the State Board of Health, we are interested only in the portions of this report that concern the enforcement of the sanitary and health laws of Illinois, and to these our remarks will in the main be directed. We will, however, take occasion, en passant, to touch on other topics discussed by Dr. McCormack—Organization, for example.

In the newspaper items brought to the attention of the State Board of Health in April, 1906, Dr. McCormack was reported as having stated that there was a lack of proper medical organization in Illinois, and a lack of co-operation between the members of the medical profession and the State Board of Health. These alleged remarks prompted the Secretary to speak in this wise in the June-July *Bulletin*:

To the physicians living in Illinois the lack of organization and lack of coöperation are not apparent. The splendid work accomplished from 1897 to 1905 by the medical profession of the state in coöperation with the State Board of Health, in connection with the enactment of the present medical practice act, the suppression of diploma mills which so long disgraced the State at home and abroad, the enactment of laws which make the reorganization of these concerns impossible, the enactment of several salutary health laws, the failure of the horde of bills introduced in the General Assemblies of 1897, 1899, 1901, 1903 and 1905, which tended to nullify the provisions of the medical practice laws of the State, the repeated unsuccessful attempts since 1899 to enact class legislation and place an osteopath on the State Board of Health, and the veto of Governors Tanner and Yates, of two misnamed osteopathic bills, would justify the opinion that Illinois on the whole is well organized, and that there exists a hearty coöperation in the medical profession.

While admitting, in his report, that there had been an "uplift following the reorganization," Dr. McCormack found that Illinois could not "be called an organized state in the modern sense." Dr. McCormack probably overlooked the most perfect single medical organization extant, and yet for reasons indicated later, it is not at all surprising that he should have done so.

In the campaign of 1905 the Illinois State Medical Society, as a body, took no active part in the efforts made to defeat the objectionable bills pending. Most valuable aid, however, was rendered by individual mem-

bers of the society, who were kept advised of the progress of the bills through the circular letters sent out by the State Board of Health, through the weekly news items in the *Journal of the American Medical Association*, which were revised to the date of publication, and through the information set forth in the April number of the ILLINOIS MEDICAL JOURNAL. But the failure of the State Medical Society to take an active part in the fight on the legislative measures pending was more than compensated by the energetic efforts put forth by the Chicago Medical Society. Owing to the perfect organization existing in that society, it was possible to acquaint each senator and representative in the General Assembly with the views of the majority of the individual members on a day's notice.

Of this medical society and its superb organization, Dr. Floyd M. Crandall, President of the Medical Society of the County of New York, an authority by the way, not only on medical organization, but on many other subjects, spoke recently as follows:

"Much may be learned from Chicago where the most perfect local medical organization in the country has been effected. Three-fourths of all the desirable and eligible physicians in the city have been brought into the society, which has increased in four years from 900 members to 1,960. The special societies, twelve in number, have been affiliated with the central body as virtual sections. The city has been divided into twelve districts, each with its district society. Several former local societies were brought into affiliation without material change of character, and now constitute district branches. These affiliated societies are represented in a central council or executive body corresponding to our Comitia Minora. There is in addition a general organization committee representing the twelve districts. In each of these districts there is a subcommittee on organization, each member of which is assigned to a definite small district. It is the duty of these subcommitteemen to become familiar with the personnel of the profession in their territory, both members and non-members. The value of such intimate knowledge of the profession of a city as such organization must furnish is at once apparent."

"Apathy, friction, misunderstandings," and divers and sundry evils, came under Dr. McCormack's observation, and called for more or less extended remarks, but no notice was given to this magnificent, helpful organization which contributed as materially to the defeat of the obnoxious bills of 1905 as it did to the success of the medical practice bill of 1899. But, as we have said, this, perhaps, should occasion no surprise. It is quite possible that Dr. McCormack does not know of the strength and influence of this organization. Be this as it may, it is certain that the members did not afford him an opportunity to gauge their strength or numbers, for at the meeting held in Handel Hall, late in April 1906, at which Dr. McCormack was advertised to speak, barely a score of the many hundred members of this powerful and influential organization was present, notwithstanding that each and every member of the Society was advised that Dr. McCormack would appear and address the Society on "Organization."

Dr. McCormack tells us that he came in contact with the best element of the profession in Illinois. There is no doubt that Dr. McCormack met excellent men while in Illinois, but he met but few. It is not necessary for us to dwell upon the attendance at his meetings. Dr.

McCormack has said enough upon this subject. We will simply note the fact that, at times, the medical representation in his audiences was insignificant, and that, on the whole, those who turned out to meet and to hear Dr. McCormack in Illinois could, in many instances, hardly be looked upon as representing the rank and file of the medical profession.

It is a safe presumption that some of those who made special efforts to meet Dr. McCormack on his visits to their districts were influenced by an earnest desire to take an active hand in the formation of his opinions of Illinois situations, realizing that his opinions would be given wide publicity. With the exceedingly brief stops made in the state—speaking from two to four times each day—and with his lack of acquaintance with local conditions, or of local men, Dr. McCormack had to rely entirely upon those who made it a point to meet him, for the information upon which his opinions were to be based. From those who took it upon themselves to convey such impressions to him, he heard reports of discord and of lack of coöperation between the medical profession and the State Board of Health, and he reflects the impressions which were insistently brought to him.

* * *

After laying stress upon the strong antagonism to health and medical laws which he found general among lawyers—an antagonism which those of us who have had to do with health and medical laws of Illinois for many years, have not yet discovered—Dr. McCormack writes as follows:

"As a part of my official duty I undertook a systematic inquiry to ascertain why the medical laws of Illinois are not so administered as to eradicate or at least greatly to minimize quackery. Under the leadership of Rauch, from whom I received my first lessons in this work, this was the pioneer state in this field, at once an example and an inspiration to all the others. It is the home of THE JOURNAL, and in a sense the headquarters of the profession. The laws are strong and need to be perfected only in detail, . . . and yet ground has been steadily lost until, probably to an extent not true of any other state in the Union, it is a veritable paradise for quackery in every conceivable form.

"As the result of careful and protracted investigation, I became convinced that the medical laws have been practically broken down, and that the profession and people do not receive the protection from quackery to which they are entitled under the plain letter as well as the spirit of the laws, because the organized profession and the State Board of Health do not coöperate in securing and enforcing legislation. This work is sufficiently difficult anywhere with all of these agencies united, and it is foredoomed to failure where they are divided. The Secretary of the State Board of Health wrote me he is sure that he has back of him the support of the rank and file of the profession, but I found constant evidence that he is mistaken on this point, and this opinion was confirmed by those to whom he referred me for information. The more or less open antagonism between the leaders of the State Society and the Board has begotten a spirit of apathy and hopelessness about improving and enforcing both the medical and health laws almost coextensive with the State, and with such a state of affairs it ought not to be surprising that the united forces of quackery have had an easy time of it."

It will be noted that, while Dr. McCormack reports a spirit of apathy and hopelessness in connection with the enforcement of health laws in Illinois, he is silent, singularly silent, on the subject of local health officers. If reliance can be placed on press reports from different portions of the state, Dr. McCormack, during his lecturing tour, laid great stress

upon the absence of county health officers in Illinois, and unfavorably contrasted the conditions in the country districts of Illinois with those in the country districts in Kentucky, where county health officers are employed. Dr. McCormack probably did not know at that time, that in every township in the State of Illinois, of which there is an average of fifteen to the county, there is a township board of health, created by state law, assuring an average of forty-five health officers in each Illinois county, aside from the health officials of cities and villages; and each one properly compensated for the performance of his duties. Dr. McCormack doubtless failed to realize that, while one health board exercises jurisdiction over the country districts of a Kentucky county, from five to thirty-five such boards are to be found in the control of the rural sections of the majority of Illinois counties. But Dr. McCormack probably learned all this in October, 1906, six months after his Illinois tour, when he wrote to the Secretary from Sault Ste. Marie, Mich., for a copy of the "law relating to the appointment and duties of local boards of health." Whatever light may have been cast upon his preconceived notions by a careful perusal of the Illinois laws on this subject, Dr. McCormack does not attempt in any way in his official report, published some months later, to make amends for the false impressions given in his numerous addresses. It is to be regretted that he did not, when writing to the Secretary, ask for a copy of the medical practice laws and the Supreme Court decisions relative to these laws, and, further, seek information concerning the enforcement of the sanitary and medical laws from that authority most competent to give such information, viz., the State Board of Health. Had he done so, he would at least have been spared the embarrassment of giving wide publicity in a signed report to several obviously erroneous statements.

We will not discuss the operation of the health laws of Illinois with Dr. McCormack. The manner in which the lives of the people are protected, and the health laws enforced by the State Board of Health, is fully appreciated by the health officers and physicians of the state, scattered over the vast area from Galena to Cairo. These men have had frequent occasion to view the methods of the State Board of Health in times of emergency, not from the distant shores of another state, but in their own communities. They have experienced the relief afforded during the prevalence of pestilence and disease, not alone by counsel and advice, but by the prompt appearance and intelligent personal effort of experienced representatives of the Board. These health officers and physicians require no additional argument to convince them that the State Board of Health, so far as its system of personal inspection and supervision is concerned, affords a degree of active protection to its people equaled by few and excelled by no state in the Union.

Dr. McCormack's journey through Illinois was hurried. His sojourn in no particular locality was sufficiently prolonged to permit him to gain a clear and accurate idea of the mental attitude of the people. It is consequently by no means improbable that the lack of acute concern and poignant anxiety in regard to matters of public health, which Dr. McCormack

ascribes to a "spirit of apathy and hopelessness," was in reality due to a sense of assurance and confidence, born of the realization that in time of need, prompt and efficient aid will be speedily forthcoming.

Although the subject is one of vital importance and interest, we will not, for reasons which will be made apparent later, dwell here in detail upon the impressions and beliefs of Dr. J. N. McCormack relative to the administration of the medical practice laws of Illinois. A few remarks, however, are pertinent at this juncture.

Dr. McCormack, to use his own language, "undertook a systematic inquiry to ascertain why the medical laws of Illinois are not so administered as to eradicate, or at least greatly to minimize, quackery." It would appear, therefore, that Dr. McCormack came to Illinois firm in the conviction that the medical laws of the state were not so administered. Dr. McCormack reports that Illinois, "to an extent not true of any other state in the Union, is a veritable paradise of quackery in every conceivable form." Had Dr. McCormack made the slightest inquiry at the office of the State Board of Health, the only place at which the records of litigation under the provisions of the medical practice laws are available, and had he instituted comparisons of these records with those of other states, he would have learned that his assumptions were entirely without foundation. He would have learned that in no state in the Union—and in this we do not except Kentucky—is the medical practice law more efficiently enforced against unlicensed practitioners than in Illinois. He would have learned that in few states of the Union—and here again we do not except Kentucky—is the law as well enforced as in Illinois.

Without entering upon the details of the retrogressive changes, Dr. McCormack states that in the administration of the laws, "ground has been steadily lost," presupposing a day when, in spite of adverse judicial decisions and the inevitable frailty of all the laws of man, Illinois enjoyed Elysian immunity from unseemly practices in the art of healing. Earnest and sincere as were the efforts of the pioneers in control of medical practices in the state, such ideal conditions and such days of unalloyed perfection exist now only in the memory of the idle dreamer, or in the pleasant anticipations of the whole-souled optimist.

Dr. McCormack says further: "The Secretary of the State Board of Health wrote me that he is sure that he has back of him the support of the rank and file of the profession, but I found constant evidence that he is mistaken on this point, and this opinion was confirmed by those to whom he referred me for information." In this statement Dr. McCormack is entirely in error. *At no time* did the Secretary of the Illinois State Board of Health (Dr. J. A. Egan) write to Dr. McCormack or say to Dr. McCormack that he had back of *him* the support of the rank and file of the medical profession, or write or say any words to this effect. The Secretary, in a private communication, written nearly a year ago, referred Dr. McCormack to certain physicians for information concerning entirely different matters in Illinois, on which, incidentally, Dr. McCormack saw fit not to touch in his report.

We do not doubt but that Dr. McCormack, for whom we entertain the kindest feelings, and whose friendship we would esteem, gave utterance to his sincere convictions when he stated that the organized profession and the State Board of Health did not coöperate; that there had been "begotten a spirit of apathy and hopelessness about improving and enforcing both the medical and health laws," which permitted "the united force of quackery to have an easy time of it." We cannot resist an expression of surprise, however, that Dr. McCormack, the secretary of the health and medical registration body of a sister state, acting in the capacity of an official of the American Medical Association, should enter the State of Illinois imbued with the belief that the medical laws are not properly administered; should take counsel in many, if not the majority, of instances with those physicians whom he had reason to know were antagonistic to the State Board of Health, and, acting upon the information obtained from such sources, should condemn the administration of the medical laws and reflect unfavorably thereon, without making the slightest effort to substantiate his impressions by reference to the authentic information on the subject, available at the hands of the President or the Secretary of the State Board of Health.

Nor can we resist the conviction that it was not the intention of the American Medical Association, when it employed Dr. McCormack to ascertain the conditions in the various states, and to effect organization whenever possible—for we presume that these were the purposes for which Dr. McCormack's services were secured—that Dr. McCormack should follow this mode of procedure in any state; should constitute himself judge, jury and attorney for the complainant; should examine certain witnesses, and should render a verdict without giving the defendant an opportunity to testify, or without even consulting the law bearing on the case. We are inclined to doubt that this method would be followed by any one of the several officers of the American Medical Association located in Illinois, who might be selected to investigate the administration of the Illinois medical practice act and the relations existing between the State Board of Health and the organized profession.

If we were delegated to investigate conditions prevailing in the State of Kentucky to ascertain, for example, why, in that commonwealth in which organization would be presumed to be well-nigh perfect (else Dr. McCormack would not leave its confines to preach the doctrine of reform elsewhere)—if we were commissioned to ascertain why the Court of Appeals of Kentucky, the highest tribunal of the state (the members of which, we have been told, incur the probability of failure of re-election unless they carry out the wishes of the medical profession)—why this Court of Appeals, but a few years ago, in the case of *Nelson vs. State* (57 S. W. R. 501), declared that "one who practices osteopathy does not practice medicine within Ky. St. 2613," although the statutes provide that "to open an office for such purpose or to announce to the public, in any way, a readiness to treat the sick or afflicted, shall be deemed to engage in the practice of medicine within the meaning of this act;"—if we should be called upon to determine why the Kentucky Court of Appeals should

have so ruled, notwithstanding that in Illinois (People vs. Gordon, 194 Ill. 560) and in other states, the Supreme Courts have declared that one who practices osteopathy *does* practice medicine within the meaning of acts similar in purpose to that of Kentucky;—or if we had been deputized to learn just why this Court of Appeals, in the case cited above, should have gone out of its way to order a perpetual injunction restraining the State Board of Health from interfering with osteopaths:—or if we had gone forth to find why the General Assembly of Kentucky (the members of which, we have been told, incur the probability of political oblivion unless they carry out the wishes of the medical profession), why the Kentucky General Assembly in 1904, “became susceptible of the blandishments of the bone-setters,” (to use the language of the editor of the ILLINOIS MEDICAL JOURNAL), and placed an osteopath on the State Board of Health, where he administers the laws in company with Dr. McCormack;—if we desired to know, for official or personal reasons, why the General Assembly of Kentucky, ignoring the ire that might be visited upon it, compelled the State Board of Health to license, without examination, all osteopaths who had practiced within the state prior to Feb. 1, 1904;—if curiosity or a desire to benefit our fellow men, moved us to investigate why the State Board of Health of Kentucky was compelled against its will, by the medical profession of the state, to accept an amendment to the 1904 law, exempting the graduates of Kentucky colleges from its provisions; or why the State Board of Health of Kentucky was forced by physicians of the state to strike out its amendment to the law providing for reciprocal registration of medical licenses;—if we would seek to ascertain why the bill presented to the Kentucky General Assembly in 1904, speedily became a law, while in Illinois the organized medical profession, in conjunction with the State Board of Health, was able, in 1897, 1899, 1903 and 1905 to defeat similar bills and to secure the vetoes of two governors to objectionable bills passed; if it were made our duty to inquire why the Kentucky State Board of Health is not more successful in the prosecution of certain “healers” than is the Illinois State Board of Health; if we really desired to seek the *raison d’être* for the severe criticisms that we have heard visited upon the Kentucky State Board of Health by members of the Kentucky State Medical Society;—if we were detailed, say by the U. S. Government, to investigate into and report upon the attitude of the Kentucky State Board of Health toward certain physicians of the state, who, while mindful of their obligation “not to advertise,” make it a custom to sell health certificates, sometimes signed in blank, to refugees from yellow fever infected districts who stop in Kentucky just long enough to secure the coveted certificate (?)—and thus cast reproach upon the State of Kentucky, and make it necessary for the United States Public Health and Marine-Hospital Service and the State Boards of Health of Illinois and other states to refuse to recognize Kentucky health certificates;—if we could learn why, following the language of Dr. McCormack, the medical laws seemingly have been broken down, why the organized profession and the Kentucky State Board of Health do not coöperate in securing legislation; why there appears to have been

begotten a spirit of apathy and hopelessness in Kentucky, and an antagonism between the medical profession and the State Board of Health—if we were delegated to inquire into all these things, we would enter the state divested of all preconceived opinions and prejudices, and, ignoring all rumors and hearsay, would make our first visit within the state to Bowling Green, where are located the offices of the State Board of Health. There we would counsel with the Secretary of the State Board of Health, or in his absence, with one of his assistants, securing at first hand, and from those reasonably presumed to be fully informed, the details concerning the laws regulating the practice of medicine in Kentucky; the circumstances surrounding their enactment, and the real method of their enforcement. We would naturally make further investigations throughout the state, but not until we had obtained a statement of facts from the State Board of Health, and had familiarized ourselves with the state laws and the powers and limitations of the State Board of Health.

Dr. McCormack suggests a method of appointment of the members of the Illinois State Board of Health, which method, surprising as it may be to Dr. McCormack, has been in practical operation in Illinois for many years. While we are loath to inject any personalities into this article, and are exceedingly reluctant to discuss our individual selves, we feel that it would be eminently proper at this juncture to lay before those physicians who may have obtained erroneous impressions after reading Dr. McCormack's report, the manner in which the present executive officers of the Illinois State Board of Health obtained their positions on the board.

The Secretary was appointed in May, 1897, on the recommendation of the editor of the *Journal of the American Medical Association*, the late Dr. John B. Hamilton, and a member of the Board of Trustees of the Association. Governor Tanner came to Chicago late in April, 1897, to complete the organization of the State Board of Health. He consulted, as to the secretaryship, with these gentlemen, approved their recommendation and at once ordered the appointment. At that time the physician who is now secretary was serving in the Chicago Health Department. He had no knowledge of the recommendation which was made. In fact, he was not even aware that there was a vacancy in the secretaryship. He had never met Governor Tanner, and had had no communication, directly or indirectly, with him. The Secretary first met Governor Tanner when he came to Springfield to assume the duties of his office. The Secretary was endorsed to the Governor for reappointment in 1901 and 1905 by local medical societies and by leading physicians, members of the state medical societies representing the three schools of medicine in every county of Illinois.

In the summer of 1900 prominent members of the Chicago Medical Society called on Governor Tanner and urged the appointment on the State Board of Health of the physician who is now its President. Governor Tanner promised to make the appointment when a vacancy occurred. At that time the physician who is now president knew nothing of the action of his friends. He had not met Governor Tanner and had not made application for the position or any other position. He was appointed

late in 1900, a vacancy having occurred. He was endorsed to Governor Yates for reappointment in 1901 by the Chicago Medical Society, and was appointed for a term which expired on Dec. 31, 1906. In January, 1907, he was tendered a reappointment by Governor Deneen solely on his record and the recommendation of members of the medical profession.

While the power of the Governor in Illinois is not limited by "express provision of the law" it would seem that, in the appointment of members of the State Board of Health, that executive has duly consulted with the medical profession, and the membership of the Illinois Board has, at least, remained representative of the recognized schools of medical practice.

* * *

In the February number of the ILLINOIS MEDICAL JOURNAL the editor republishes Dr. McCormack's report and takes occasion to comment editorially thereon, in part, as follows:

"There are certain parts of this report that should be pondered deeply by medical men of the State and we believe it is high time that something should be done to correct conditions which Dr. McCormack states has made Illinois a veritable paradise for quackery in every conceivable form."

It is true that the editor, in this paragraph, does not, upon his own responsibility, impute fault or blame for the existence of the conditions reported by Dr. McCormack, which conditions the editor obviously desires to have his readers assume to be true. The editor does, however, in another paragraph, plainly and equivocally corroborate the opinions of Dr. McCormack that "ground has been steadily lost" in spite of the fact that "the laws are strong"—an assertion which is susceptible of but one interpretation—that laches must exist in the enforcement of the provisions of the laws.

It is indeed to be deplored that the editor did not offer some suggestion as to just what "should be done," and that he did not state, plainly and specifically, what we are to understand by "quackery in every conceivable form." Charges of evils, couched in broad generalities, aid us little in the application of the specific remedy. If "quackery in every conceivable form" does exist in Illinois, as stated by the editor, and if it lies within the range of human possibility to correct the conditions that have "made Illinois a veritable paradise" for quackery, the Illinois State Board of Health will take pleasure in joining hands with the editor and with all other members of the State Medical Society, in an immediate effort to remedy these conditions.

But "quackery" is an ill-defined, indefinite term, depending greatly, as to its interpretation, upon the individual point of view. We are not advised as to the editor's construction of the term, and our ideas of his meaning must, at best, be merely conjectural. If the editor applies the term of "quackery" to the practice of unlicensed physicians, we have only to say that we know of no unlicensed physicians practicing in Illinois. If the editor knows of any, the State Board of Health will now, as at all times, be very grateful to him for any information he may impart.

It is possible that the editor has in mind the practice of "mental healers" who have multiplied in Illinois to an enormous extent since the

enactment of the medical practice law of 1899, from the provisions of which act they were specifically exempted. Doubtless much "quackery" is to be found among the adherents of "mental healing," just as among the devotees of all other cults and isms which have sprung up in Illinois and in other states in the unprecedented wave of mental, religious and occult therapy that has prevailed during the past twelve years. Over such forms of practice, however, the Illinois State Board of Health has absolutely no jurisdiction. Its hands are effectively tied. To paraphrase on the apothegm made a few years ago by an Illinois statesman: The State Board of Health is as strong as the law and no stronger; and is as weak as the law and no weaker. Neither the State Board of Health of 1899, nor any member of the present board is responsible for the insertion in the bill of 1899 of the clause exempting the practice of mental healers; an exemption which, since the passage of the bill, has kept the courts of the state in a condition of constant uncertainty as to what may really be construed as a violation of the medical practice act. As to those responsible for this confusing exemption the editor is fully advised.

We are inclined to doubt that the editor had in mind the practice of mental healers or the other therapeutic faddists referred to above. We will assume, as other members of the Illinois Medical Society have doubtless assumed, that the editor's remarks were intended to apply to the practice of physicians who have been licensed by the Illinois State Board of Health since July 12, 1877, to those who have departed from the tenets and doctrines of the dignified body of the profession; that, putting the matter more plainly and specifically, the editor referred to the advertising physicians of the state.

Possibly the editor stamps as "quackery" the practice of those physicians whose "wonderful attainments and successes" are boldly set forth on the broad pages of the newspapers of the state, and doubtless many of the members of the Illinois State Medical Society, who have read the editor's remarks, are inclined to agree with him. It is possible—nay, quite probable—that many who have read the editor's comments are of the opinion that the State Board of Health should revoke the certificates of the physicians so advertising, but we venture to assert that such is not the view of the editor. The editor knows something of the powers and limitations of the State Board of Health; he is fully cognizant of an incident that occurred just twenty-two years ago, reaffirming an incident of a year or two previous—and he well knows the outcome. He likewise knows, or should know, just how the State Board of Health has been handicapped in dealing with the "Master Specialists" for the past nineteen years; that the Board was handicapped during the last four years of the administration of the fearless and indefatigable Rauch, from whom Dr. McCormack said he received his first lessons, as the Board is handicapped now. But, in view of his complete, personal information of the facts, it is exceedingly difficult to conceive why the editor should repeat and apparently sanction the strictures made by Dr. McCormack, who, it is but reasonable to assume, lacks familiarity with the underlying conditions.

We can not and we will not, in this *Bulletin*, which is sent to physicians and laymen throughout the state, lay bare the weaknesses of our medical practice act—weaknesses which, unfortunately, must apply to any act that might be enacted. We do take the stand, however, that the Illinois State Board of Health properly enforces the medical practice act so far as lies within the power conferred upon it by the statutes, and that the “quackery” existing under the provisions of this act would exist under the provisions of any act that has been proposed by the editor or his confrères, and we shall be pleased to debate this question with the editor, not in the columns of THE ILLINOIS MEDICAL JOURNAL nor in the *Bulletin* of the Illinois State Board of Health, but in the presence of representative medical men, before a jury of our peers. That these matters, which have seemed so difficult of clear understanding by many members of the medical profession, may be made plain by frank and complete exposition of the facts, we respectfully invite the editor to discuss the administration and enforcement of the Illinois medical practice act, in its relation to quackery in Illinois, with either the president or the secretary of the Illinois State Board of Health, before the Physicians’ Club of Chicago, at an early date. We select the Physicians’ Club for the reason that it meets frequently, the meetings are largely attended, and it is made up of members of the Illinois State Medical Society, and contains many men who are conversant with the problems affecting medical education and the enforcement of medical practice acts, men who will not be deceived by glittering generalities, but who will insist on a plain presentation of plain facts, and who, furthermore, will be competent to determine whether the facts have been properly presented.

* * *

The editor says further:

“We know too well that Dr. McCormack speaks the truth when he says that the medical laws have been practically broken down and that the profession and the people do not receive the protection from quackery to which they are entitled under the plain letter, as well as the spirit of the law, because the organized profession and the State Board of Health do not coöperate in securing and enforcing legislation.”

Here, again, the editor, in this statement, which is lacking in the prosaic limitation of facts, leaves us quite in the dark as to his true ideas and meaning. He neglects to enlighten us as to the manner in which the medical laws “have been practically broken down;” he fails to specify the character of the protection which, in his opinion, “the profession and the people do not receive under the plain letter as well as the spirit of the law;” he, very inconsiderately, neglects to quote the “plain letter of the law” under which this broad protection is guaranteed, and he omits all details in connection with the failure of the organized profession and the State Board of Health to co-operate in securing and enforcing legislation. With apparent incongruity, he seems to deplore lack of co-operation in securing the enactment of measures which he contends are already clearly and explicitly drafted on our statutes. He assumes a general recognition of unfortunate conditions which he fails to designate with sufficient

lucidity to guarantee their identification even by those who are reasonably conversant with the conditions existing throughout the state.

For reasons set forth above, we can not and will not enter into a detailed discussion here, on the enforcement of the medical practice act of Illinois. We will simply assert that the laws have *not* been broken down except by unfortunate provisions in the medical law of 1899, for which the State Board of Health is not responsible, and by adverse decisions of the Supreme Court of Illinois, which decisions, except in one instance, would apply to any law that might be enacted, and we will assert further that the profession and the people *do* receive all the protection to which they are entitled under the plain letter of the law. We will be pleased to hear the editor take exception to these assertions before the Physicians' Club of Chicago, or before any other medical organization.

But we would welcome a discussion with the editor, either in this *Bulletin* or in the columns of THE ILLINOIS MEDICAL JOURNAL, as to the accuracy of the statements made by Dr. McCormack, who knows nothing of the facts, and republished by the editor, who should be thoroughly conversant with the facts, that the organized profession and the State Board of Health do not co-operate in securing and enforcing legislation. And prefatory to this discussion we would take occasion to say that when the editor delivers himself of the bold generality that he knows too well that the organized profession and the State Board of Health do not co-operate, he assumes a lack of intelligent conception on the part of his readers, the members of the local medical societies from Jo Daviess to Alexander County, who constitute the organized profession and make up the membership of the Illinois State Medical Society, of which the editor is an official servant.

At all times within the past ten years there has existed a most cordial co-operative spirit between the local medical societies and the State Board of Health in the enforcement of the medical practice act. It has been the policy of the Board, during that time, to seek and to obtain the concurrent effort of the local societies in all of the work it has undertaken, and this policy has been carried out successfully, thanks to the spirit displayed by the officers and members of the local organizations whose support has been solicited. One of the earliest official acts of the Secretary, on the day that he first assumed office, was the drafting of a letter to an officer of a leading county medical society, asking his assistance in the prosecution of a notorious violator of the law. This letter resulted in a warm co-operation which has existed continuously since that time, while a similar relationship has been subsequently established in the majority of the counties of the state. At the present time there are suits pending against violators of the medical practice act in several counties—suits instituted through the co-operation of the local medical societies and the State Board of Health—and in the prosecution of these cases the State Board of Health has relied upon, and has never failed to receive, the hearty support of the officers and members of these organizations. Indeed, it is exceedingly doubtful if there is any other state in which the medical

profession and the State Board of Health unite more harmoniously or more effectively in enforcing medical practice laws than in Illinois.

Much of the desirable medical legislation enacted in the past ten years has been secured through the concerted efforts of the State Board of Health and the organized medical societies. Conspicuous among these measures so secured are the present medical practice act, the "diploma mill" act of 1899, which promptly and effectively rid the state of fraudulent institutions which had disgraced it at home and abroad for years; the township board of health act of 1901; the birth and death acts of 1901 and 1903, and the free antitoxin act of 1905. Through similar harmonious concurrent action the State Board of Health and the organized profession have succeeded, since 1897, in defeating objectionable bills in five General Assemblies, while at the present time the State Board of Health, the Legislative Committee of the State Medical Society and the Committee on Public Relations of the Chicago Medical Society are co-operating in an endeavor to defeat the objectionable measures set forth in this *Bulletin* and in the January issue.

This fruitful co-operation has been recognized and approved by the heads of the state government and by legislative bodies for years past, and the extent to which official recognition has been accorded these affiliated forces is shown significantly in the declaration of a representative from a leading northern county, who stated not long since, "The doctors up my way tell me to oppose the bills that the State Board of Health opposes." If there could be a more sincere expression of confidence that the purposes, the desires and the aims of the State Board of Health and of the physicians of the state are identical, we can not see what it could be.

There has been but one time when the medical organizations composing the State Medical Society and the State Board of Health have failed to work in harmony toward the same ends. That was in connection with the medical practice bill of 1903 printed in *THE ILLINOIS MEDICAL JOURNAL* for March, 1903—the bill, which, to use the language of the editor, possessed features "which, for the sectarian schools and the osteopaths constituted an improvement on the present law." This bill was imperfectly understood by many members of the medical profession. Its provisions were but inadequately explained, and the profession was not kept advised of the amendments made while the bill was pending. The State Board of Health, however, approved and advocated the measure, after necessary amendments had been made, and after the bill had been pruned of the unconstitutional provisions which had aroused the open antagonism of the Governor and many members of the General Assembly—provisions incidentally which were not approved by a member of the Legislative Committee of the State Medical Society of 1902-03, and by leading men in the profession throughout the state.

Just a word in conclusion regarding this medical practice bill which, when last before the medical profession, was known as Senate bill No. 370 of the Forty-third General Assembly. We say but a word, for it is useless to discuss at length here an issue of four years ago, although it must not

be misunderstood that we do not stand ready to discuss this matter in its every phase and aspect, at any time, at any place. This bill—Senate No. 370—as was true with the various bills drafted previous to the introduction of this bill—provided for a law which based its claims of superiority over the present law *solely* in the fact that it placed the administration of its provisions in the hands of an organization separate and distinct from the State Board of Health, which organization was given jurisdiction over all licenses issued since July 12, 1877. It offered no other advantages of any kind, although set forth in thirty-six sections, while the present law confined its provisions to twelve.

Space forbids our dwelling further upon this subject here, but we shall be pleased to discuss this bill—its origin, its virtue, its frailties and the attitude of the State Board of Health toward it—with the editor, before the Physicians' Club of Chicago, or before any other medical organization in the State of Illinois.

GEORGE W. WEBSTER,
President.

JAMES A. EGAN,
Secretary.

COPY OF LETTER SENT TO THE EDITOR OF THE BULLETIN
OF ILLINOIS STATE BOARD OF HEALTH.

BOWLING GREEN, KY., March 27, 1907.

To the Editor of the Bulletin:

I was greatly surprised and pained at your complete and incomprehensible misconception of the spirit and intention of my comments on health and medical conditions in Illinois. You could not have gone further from the truth upon any point than to assume that I entered upon the investigation with any prejudice or preconceived opinion in regard to your own or any other part of the work. I have known both you and Dr. Webster long and favorably, have always entertained for you, as I do now, only the kindest feelings, and if there had been any bias it would have been in your favor.

I was not in your state as a volunteer or interloper, but in an official capacity quite as distinct as yours, and in the discharge of a responsible public duty. Taking up the work with an open mind, I recorded impressions as they came to me, sifted and corrected in the light of inquiry from every reliable source. I knew from you and others that certain persons prominent in the affairs of the State Society were inimical to you, and purposely avoided making an inquiry of them. In fact, it is just and fair to both you and them to say that these gentlemen gave none of the information contained in my report.

As my mission is largely to develop and foster the kind of public and professional sentiment which will give active support to health and medical work, I naturally expected that you would attend some or all of the earlier meetings, use your influence with your local boards and friends in securing the attendance of influential people, take an active part in the discussions, in a word, work in co-operation with the councilors and county society officers in making the meetings profitable to the profession

and people. Aside from the personal relations which have always existed between us, I would not only have felt it a duty but would have made it a pleasure to have done this had you or any other accredited representative of the profession been in Kentucky in a similar capacity.

When you failed to come to the meetings, and I found upon inquiry that you appeared not to be seeking the co-operation of the organized profession, I wrote you kindly and frankly the impressions I had received, not from your enemies, or even from the leaders, but from the rank and file of the profession, and cordially invited you to meet me at some convenient point that we might talk over the situation. I had two appointments for each day, as you knew, and there was no chance for me to get to your office or to reach you in any other way. I told you that I had reached no conclusions as to who was responsible for the conditions I had found, and which could not but be unfortunate, and that I wanted to go over the situation with you in the hope of putting every professional interest back of you and your work.

The spirit and tone of your response then were very much like what you say now. Those who differ from you are enemies, those who criticise you are wrong, conferences are unnecessary, compromises are not to be thought of, but all the dissatisfied are granted gracious permission to call upon you and have the opinion officially confirmed at your office. My later comments applied, and were intended to apply, quite as much to councilors and other officers of the State Society as to you, and yet you rush to the front and assume that it was all meant for you. I confess that it is this insistence, iterated and reiterated, which goes far to convince me that you can not be less responsible than others for the unfortunate conditions which every one except yourself knows exist in Illinois.

I welcome your criticisms as to Kentucky. We started late, many years after Illinois. We have accomplished much, but no one knows better than I do that our work is in its infancy, or has written about it more frankly. We are at least free from open quackery, licensed and unlicensed, we have a satisfactory entrance requirement for medical students, and, what is far more important, and what gives the greatest promise for the future, we have solidly back of the board and the law all of the societies and organized influence of the profession of every school of practice. My plea, made in my official capacity, after the fullest and most impartial investigation of which I was capable, was that all of you lay aside your petty personal animosities, get down off the stilts so affected by our profession, and make common cause in a reform which is otherwise hopeless. I regret more than I can tell you that you misunderstood or distorted my meaning, not only upon personal grounds, but because it now looks as though your misconception of what was intended to be only kindly and helpful will defeat or postpone the very purpose for which my visit and report were made. Very respectfully,

[Signed.]

J. N. McCORMACK.

ANNUAL MEETING MAY 21, 22, 23, 1907, AT ROCKFORD.

The next meeting of the Illinois State Medical Society will be held at Rockford, May 21, 22 and 23, 1907. The entertainment of the association is undertaken by the Winnebago County Medical Society, and the committee on arrangements appointed by this organization is doing everything in its power to make the meeting one of the best in the history of the society. It seems quite fitting that Rockford should have this honor this year, for it is almost fifty years (1858) since it has been thus favored. At the Springfield meeting last year two of our oldest members, Drs. Hollister and Ensign, reminded the society that when it was yet in its infancy (1858) its meeting was held at Rockford. Dr. Hollister related that at that time there was but one railroad out of Rockford by which Chicago could be reached.

Since then Rockford, in its strides forward, has kept pace with the advancement of medical science and with all of the great moving forces of the age. She has developed from a mere village, with a rocky ford as the only way of crossing her beautiful river, to a thriving, prosperous city with a population of forty-five thousand inhabitants. She is a city of factories, of schools, of churches and beautiful homes. Instead of one railroad she now has five and three electric interurban systems. Ample facilities are, therefore, furnished the members for reaching the place of meeting. The usual rate of one and one-third fare on the certificate plan will be provided from all points in the state. It is requested that members buy this form of ticket instead of using mileage books, so that the society may show the required number of tickets purchased to secure the above rate.

Hotels.—The headquarters during the meeting will be at the Nelson House; rates \$2.50 to \$4.00 per day, American plan. Chick House, \$1.50 per day, American plan. Jarvis Hotel, \$1.50 per day, American plan. Central Hotel, European plan. It is impossible on such occasions for hotels in all cases to supply a single room to each individual; it is suggested, therefore, that members so far as practicable select congenial partners before coming to the meeting.

Rooms.—Many rooms in private families will be available for those who may prefer them. If those who wish such accommodations will write to the chairman of the committee on hotels, as given below, an effort will be made to secure such rooms in advance. The price of such rooms will be the usual rates of hotels conducted on the European plan. For the accommodation of those taking such rooms a number of good restaurants convenient to the place of meeting will be available. Visiting members can feel assured that the local committee will see to it that comfortable accommodations will be provided for them.

Place of Meeting.—The places for holding the meetings are within a block of the principal street of the town and within three blocks of all the hotels. The general session and the sessions of the sections will be held in the Church of the Christian Union, corner of North Main and Mulberry streets. In this church will also be the registration bureau, the agency for railroad tickets and pharmaceutical and surgical instrument exhibits. Within a hundred feet of the church is Soldiers and Sailors'

Memorial Hall, which has been secured for meetings of the House of Delegates and for committee meetings of any kind.

A new feature of the scientific part of the meeting this year is the joint sessions of the medical and surgical sections. A part of the sessions will be devoted to medicine, another to surgery and a third to borderland topics. An excellent scientific program has been promised by those having this work in charge.

For the hours not occupied by scientific work, entertainment will be furnished for both the members and their ladies. One of the principal entertainments of the meeting will be the banquet on Wednesday night at the Nelson Hotel. On this occasion the members of the society wish to pay special homage to two of her oldest members, Drs. John H. Hollister of Chicago and E. O. Ensign of Rutland. Here will be celebrated the fiftieth anniversary of their membership in the state society, a membership that has been of much moment to the society and a great honor to the profession. For the ladies' entertainment boat rides, automobile rides and luncheons have been provided.

The physicians of Rockford and Winnebago County invite you to come and promise you a cordial welcome.

T. H. CULHANE, Chairman,
S. R. CATLIN, Treasurer,
J. E. ALLABEN, Secretary,
D. LICHTY, Chm. Com. on Entertainment,
W. B. HELM, Chm. Com. on Transportation,

W. R. FRINGER, Chm. Com. on Entertainment of Ladies,
CHAS. S. WINN, Chm. Com. on Exhibits,
P. L. MARKLEY, Chm. Com. on Buildings,
J. E. TUITE, Chm. Com. on Hotels,
Committee on Arrangements.

The Exhibit Committee desires to call your attention to the exhibition department, located on the first floor of the convention building. Only manufacturers of standard recognized products and appliances have been secured. They will be represented by men selected for their ability and affability; you will be given courteous attention, and we trust that your acquaintance with them will be both profitable and pleasant.

We also wish to call your attention to the exhibition of automobiles, especially adapted to the physician's use, which has been secured for this meeting. Each car promises special merits worthy of your attention. If you are interested in automobiles this meeting will afford a most excellent opportunity to study the mechanical construction of the latest models of the runabout type suitable for the physicians. Their representatives will be at your service and will gladly give demonstrations at your convenience.

Rockford is a beautiful "forest city," and its many miles of paved and shaded streets and pleasant rural drives will afford ample opportunity for these demonstrations, and at the same time give you a view of one of the most beautiful cities in northern Illinois.

Awaiting with pleasure your coming among us, and assuring you that we are preparing to provide for you a most pleasant as well as profitable time, we are

Yours fraternally, DR. C. S. WINN.
DR. W. E. PARK.
DR. J. H. FROST.

OFFICIAL PROGRAM

OF THE

FIFTY-SEVENTH ANNUAL SESSION OF THE ILLINOIS STATE
MEDICAL SOCIETY, TO BE HELD AT ROCKFORD,
MAY 21, 22 and 23, 1907.

SECTION ONE—MEDICINE.

E. W. LILLIE, East St. Louis *Chairman.*

RALPH W. WEBSTER, 100 State St., Chicago *Secretary.*

Address—The Role of Gross Parasites in the Diffusion of Infectious Diseases.
Robert B. Preble, Chicago.

TUESDAY—MORNING SESSION.

SYMPOSIUM ON TUBERCULOSIS.

1. The Early Diagnosis of Pulmonary Tuberculosis. Robert H. Babcock, Chicago.

1. Preliminary remarks regarding the curability of the disease and the relation existing between the stage of the disease and the prospect of its cure; the difficulties in the way of an early recognition of the affection and some of the mistakes likely to arise. 2. Consideration of the methods of diagnosis and the data on which the physical diagnosis must rest. (a) General symptoms, as fever, condition of the blood, cough, loss of weight and strength, etc. (b) Local signs elicited by physical examination of the chest, with especial emphasis upon the primary sites of the lesion and the areas secondarily involved.

2. Social Aspects of Tuberculosis. Henry B. Favill, Chicago.

1. The technique of treatment of tuberculosis, prophylactic and curative, reasonably well established.

2. Thus far the procedure is complex in its most perfect form.

3. In this form inaccessible to the enormous majority of those who are and are likely to become tubercular.

4. The move of first importance is to simplify the necessary régime. This involves determination of doubtful questions as to climate and the present unnecessary expensiveness of food.

5. For those not yet ill it involves a practicable plan of hygienic life.

6. The foregoing being determined the question still remains how to bring into relation effective means and the individuals needing them.

7. The whole question becomes consequently in a minor degree a medical and hygienic question, and in a chief degree a sociologic problem.

8. Some suggestions as to the methods to be pursued.

3. Ocular Tuberculosis. Casey A. Wood, Chicago.

Discussion opened by E. V. L. Brown and W. E. Gamble, Chicago.

4. Some Nervous and Mental Phases of Tuberculosis. Frank Parsons Norbury, Jacksonville.

5. The Diagnosis and Treatment of Laryngeal Tuberculosis; Some Unusual Types. W. E. Casselberry, Chicago.

While the diagnosis of tuberculosis of the larynx ordinarily is not difficult, in exceptional cases its substantiation or exclusion is beset with uncertainty. As a basis of comparison the usual diagnostic data are formulated: the hyperplasia of the interarytenoid fold and vocal processes, of the arytenoids and ventricular bands, sooner or later of the vocal cords, and lastly of the epiglottis; the "mouse-nibbled" ulcers which early supervene amid the tumefaction, being not conspicuously interblended with cicatrices. The first type, described and represented by a case in detail, which is introduced as fairly typical of a considerable group of cases, is not at all of an unusual sort, being intended to exemplify our familiar preconception of the course of tuberculosis of the larynx; that is, of speedy development, persistent progress and rapidly fatal termination. It is named the galloping type, in order further to emphasize the contrasts between it and the one next described which is named from its salient characteristics, the chronic hyperplastic type. The case next detailed, as fairly typical of this group, presented perplexing uncertainties in diagnosis, but in the end was well substantiated. Other cases of this type are briefly mentioned in support of the opinion that it is not so very unusual as the scarcity of special mention of it in literature would indicate.

Among the other unusual types which are apt to involve uncertainty in diagnosis are those in which the larynx is affected only on one side—the unilateral type, the verrucous type, the so-called conjoined syphilitic and tuberculous type, and the condition of arrest of the disease. Well-authenticated convincing instances of the latter fortunate termination are discouragingly rare in literature, yet they certainly do occur.

Treatment is considered principally in connection with the methods employed in the particular cases detailed rather than in a general way, excepting to confirm the growing conviction that the treatment of the laryngeal complication is bound up in that of the pulmonary and general state, which, however, does not imply that local measures are without avail, for they certainly are helpful, but only that the general condition should not be subordinated to the local measures.

Discussion opened by John Edwin Rhodes.

6. The Sunny Side of Tuberculosis. William Porter, East St. Louis, Ill.

1. Retrospect, the "dark ages" in the history of tuberculosis.
2. Rays of light before the dawn.
3. Daybreak with Koch's discovery.
4. Awakening with Christendom to the prevalence and prevention.
5. Necessity for action.
6. Mortality and economic loss.
7. Methods of prevention.
8. Early recognition.
9. Care of advanced cases.
10. Results obtained and expected.
11. Noonday.
12. Personal responsibility.

7. The Management of Tuberculosis. Clarence L. Wheaton, Chicago.

This subject, of far-reaching importance, of interest to the profession from a medical and humanitarian aspect, and to the public and laity from a social and economic standpoint. Therapeutics less varying, fewer extremes prevail to-day than ever before in the management of tuberculosis. Much good has been derived from the old teachings, and that which is irrational eliminated from the new; less experimentation in the attempt to exploit so-called cures.

The importance of early recognition of tuberculosis and what clinically constitutes early involvement. Twenty and one-third months is the average period of delay following recognition of symptoms referable to the disease up to the time of patient's arrival in Colorado. The value of the sanitarium in the management of tuberculosis at home. Recapitulation of author's address, Section Hygiene and Sanitary Science, A. M. A., June 4, 1906, "Reasons Why Sanatoria Under State Supervision are the Ideal Institutions."

History of the therapeutics of tuberculosis, as applied to the management of the disease. Form of ordinance which might be used as a basis for legislation of municipalities regarding tuberculosis, drafted by the committee appointed in the Section on Hygiene and Sanitary Science, American Medical Association, by Drs. S. A. Knopf, Charles Browning and Clarence L. Wheaton. Importance of reducing opportunities for infection, promoting the individual powers of resistance, and utilizing all educational influences at our disposal in the management of tuberculosis.

8. Sanatorium Treatment of Tuberculosis. E. H. Butterfield, Ottawa.

9. Specific Treatment of Tuberculosis. Arnold C. Klebs, Chicago.

Introduction. Definition of terms. "Specific" treatment not necessarily causal therapeutics in the bacteriologic sense, but intended to be productive of artificial immunity, immaterial whether by antibacterial, antitoxic or histogenic influences. History of antibacterial or anti-infective attempts. More recent propositions. Koch's experiment with superinfection and the discovery of tuberculin. Specific reaction of tuberculous tissue. Other substances of non-bacterial origin producing it. Differences. History of tuberculin therapeutics. Explanation of selective action.

Immunity in tuberculosis. Predisposition and resistance to tuberculosis. Various susceptibility in different animal species and human races. Variability of bacillus, its virulence. Organic immunity and predisposition. Observations in generalized metastatic (miliary) tuberculosis. Anatomic cure of tuberculosis, its probable conditions. Theories of immunity in tuberculosis. Artificial immunity.

Tuberculin effects and their relation to artificial immunity. Reaction, local and general. Its utilization for diagnostic purposes. Methods of measurement of immunizing effect, agglutination, opsonic index, "neutrophile leucocytosis."

Justification of therapeutic application. Difficulties preventing accurate estimate of results obtained. Exclusion of other active curative factors. Results in pulmonary tuberculosis, comparison with other methods, precaution necessary in such comparisons. Results in other forms of tuberculosis, especially those directly observable (eye, skin, larynx, etc.).

Technical. Selection of preparation. Dilutions. Apparatus necessary. Frequency of infection. Dosage. Precautions.

Conclusions. Résumé and outlook.

AFTERNOON SESSION.

10. Ulcerative Endocarditis. James B. Herrick, Chicago.

11. Hyperthyroidism. Arthur R. Elliott.

A consideration of forms of thyroid toxemia less intense and clinically less distinct than Graves' disease and due to transient disturbance of the thyroid function. Illustrative cases. Etiology, frequency and clinical value of the condition.

12. When Should Gastric Uleer Be Treated Surgically and When Medically? Bertram W. Sippy, Chicago.

13. Some Newer Points in the Treatment of Nephrolithiasis Urica. Alfred C. Croftan, Chicago.

The prevention of uratic concretions. The proper diet, the use of alkalies, notably calcium carbonate, the use of urinary antiseptics. The removal of uratic concretions after they have once formed, the remedies that can be employed, the fallacies and inconsistencies of so-called uric-acid solvents, the indications for and against surgical removal of uratic concretions. The treatment of complicating infectious processes and of the chief symptoms, viz., the pain, the colic, the hematuria, etc.

14. Achylia Gastrica in its Relation to Intestinal Function. Frank Billings, Chicago.

15. Early Diagnosis and Treatment of Polyneuritis. Julius Grinker, Chicago.

Development and course may be either acute, subacute or chronic. Symptoms may refer to motor, sensory or coordinative disorders, singly or in combination. Early diagnosis must be based upon, (1) a proper recognition of disturbances of motion, sensation or coordination; (2) the state of nutrition of muscles and nerves as evidenced by atrophy, flaccidity and changed response to electric stimulation; (3) the state of the reflexes seldom exaggerated, most often reduced or absent; etiological factors, endogenous and exogenous poisons, either organic or inorganic, introduced from without or produced and retained within the body as a result of infections, metabolic and excretory defects. Early treatment will aim (1) to remove the cause or causes; (2) to relieve symptoms; (3) to prevent deformities; (4) to maintain the muscles in a high state of nutrition until normal nerve conduction shall have been re-established.

16. Hysteria and Neurasthenia: Their Nature and Treatment Contrasted. L. Harrison Mettler, Chicago.

Hysteria and neurasthenia distinct clinical entities. Often observed together in the same patient. When so associated each is fairly distinguishable from the other. Hysteria primarily a psychosis, a disorder of personality; neurasthenia, primarily a neurosis, a neurotic inadequacy. Hysteria is a psycho-physiological (functional) defect; neurasthenia is a neuro-histological (anatomical) defect. The cardinal characteristic of hysteria is psychic changeability; that of neurasthenia is elemental failure or weakness. All symptoms of either disease, even when observed together in the same patient, should be analyzed in the light of these respective characteristics. Rational treatment dependent upon the clear recognition of this distinction between the two diseases. For hysteria it is psychotherapy; for neurasthenia physical reconstruction. Same details of treatment.

17. Less Familiar Forms of Epilepsy. D'Orsay Heelt, Chicago.

18. Septic Tank System. E. F. Baker, Jacksonville.

SECTION TWO—SURGERY.

E. H. OCHSNER, Chicago *Chairman.*

H. W. CHAPMAN, White Hall..... *Secretary.*

WEDNESDAY—MORNING SESSION.

1. Operation for Cystocele. Archibald Robertson Small, Chicago.

The inadequacy of the older methods to produce permanent results. A review of some of the work done by other operators during the past five years. The main principle of the operation recommended is to split the anterior vaginal wall from near the meatus to the cervix; widely separate the bladder from the vagina; remove the redundant vaginal wall, and join the cut edges of the vagina by interrupted sutures. In cases of prolapsus of the uterus, the necessity of suspending the uterus, either by Kelly's method or by means of the round ligaments, to give permanent results. Report of a typical case and result two years and a half after operation.

2. Treatment of General Suppurative Peritonitis Due to Appendicitis. L. A. Greensfelder and D. N. Eisendrath.

Definition of term "General Suppurative Peritonitis." Discussion of 36 cases treated at the Michael Reese Hospital. Comparison of results before and after 1903.

3. Malaria as a Surgical Complication. T. M. Aderhold, Zeigler, Ill.

Introductory remarks. Diagnosis, demonstrative, clinical, therapeutic. Cases illustrating (a) Appendicitis with malaria; (b) extrauterine pregnancy with malaria; (c) general bacteremia with malaria; (d) compound comminuted fracture of femur with malaria; (e) fracture of skull with malaria. Treatment of malaria. Medical. Hygienic. Prophylactic. When should malaria interfere with operation. Concluding remarks.

4. Progressive Infective Gangrene and Allied Affections. L. Ryan, Chicago, Ill.

Clinical course. (a) Cases following the type of malignant emphysematous gangrene. (b) Cases where emphysema is absent. Bacterial examination. Deductions from study of cases. Prognosis and treatment.

5. Indications for Technique of and Results in Surgery of the Peripheral Nerve. J. B. Murphy, Chicago.

6. A Study of a Case of Puerperal Infection, with Special Reference to Its Etiology. Robert T. Gillmore, Chicago.

The history of a normal case of labor, complicated with a severe puerperal infection which manifested itself on the eleventh day. Report of the blood count, of the culture of the disease and the convalescent period. The etiology: Predisposing and exciting causes of puerperal infection. No evidence of an autoinfection. The study of the probable cause of infection in this case.

Predisposing causes:

1. No traumatism of the vagina or peritoncum.
2. The patient's labor was ideal. Eighteen hours in length, and she was not exhausted.

3. Placenta was intact.

4. The details of her sanitary surroundings, which were all that could be asked for.

Exciting causes:

1. Inquiry into the surgical cleanliness on the part of the obstetrician. How he prepared himself for the confinement. How the articles pertaining to the maternity bed were sterilized. Details of the testing of the sterilizer.

2. The doctor's directions regarding the douche.

3. Inquiry into the cleanliness on the part of the patient.

4. Ditto, on the part of the nurse.

Conclusions. That the streptococci coming from the interior of the uterus had not been carried there by the blood from some focus of infection localized in a remote portion of the body, would seem in this case entirely out of the question. Why we trace the time of invasion of the streptococci in this particular case to the seventh, eighth or ninth day after delivery. Why it seems probable that the douches which were given on the initiative of the nurse about this time were the direct cause of the infection. For the benefit of his future patients the author reads what he had printed on the back of his obstetrical lists, which he gives to his pregnant clientele. He hopes in this way to guide his nurses as well as assist in educating his patients.

7. Rapid Osteoclasia vs. Osteotomy. Frank B. Lucas, Peoria.

This paper deals with operative procedures for correction of bow-legs, anterior bent tibias and knock-knees in children. Account is taken of the lack of technique given by orthopedic authors upon the use of the Grattan osteoclast, and Dr. Wallace Blanchard, of Chicago, is freely quoted as authority on account of over 700 operated cases by the above bloodless method. Cuneiform osteotomy is particularly decried as producing shortening in the tibia, whereas osteoclasia produces lengthening, thereby increase of stature. Manual correction of bow-legs in the early period, followed by repeated casts, is given as the best method of correction in infants just beginning to walk. Braces are slow, tiresome and are apt to produce loose knee joints as well as sores from pressure. The fracture, usually a 4/5 or green-stick, as produced by the Grattan osteoclast, can be completed manually if necessary, and the in- or out-twisted tibial deformity corrected by hand, the cast being applied and leg held in overcorrection until plaster is firm. About four weeks in plaster is sufficient, when the child may be allowed to walk without aid of any appliance or brace. In correction of knock-knee there is usually only an osteokamptosis or bending of the femur at its lower third, and legs are put up in overcorrection so they resemble bow-legs while in plaster. Technique of the above is given in full. Three cases are cited, showing good results, and illustrations given of the method as advised. Advantages of osteoclasia are summarized and appeal to the profession for adoption of the improved method for correction of these "brace-ridden" deformities is made, and the hope expressed that orthopedic authors may cease to give the profession a wrong impression of the value of osteoclasia.

8. Paralytic Deformities of the Legs. E. W. Ryerson.

Two varieties only taken up in this paper. Cerebral or spastic paralysis and anterior poliomyelitis. Medical treatment of little value. Mechanical treatment described. Operative treatment of several kinds—tenotomy, nerve-grafting and tendon transplantation described in detail.

AFTERNOON SESSION.

Address in Surgery—The Surgical Treatment of Hyperthyroidism of Exophthalmic Goiter. Charles H. Mayo, Rochester, Minn.

9. The Treatment of Pelvic Infections with a Consideration of the Technique of Pus-tube Operation. Channing W. Barrett, Chicago.

Sources of pelvic infection. Areas involved. Puerperal infection briefly considered. Methods of non-operative treatment. Routes for operative treatment. Choice of operation and technique for radical operation upon tubal and tubo-ovarian pus sacs.

10. Operative Interference in Acute Mastoiditis. L. R. Ryan, Galesburg, Ill.

Frequency of acute otitis media purulenta in our climate affecting all ages and classes. Etiology, pathology, prognosis, etc. The most dangerous complication—mastoid abscess. Methods of prevention. If it occurs, the best plan of treatment, operation almost imperative. Stacke-Schwartz operation, seldom necessary. Wilde's

operation adequate. Seems to meet all indications if properly done. Placing of incision, depth, etc. It should be performed early. Citation of a series of cases ranging in age from two years to seventy years. All cured without complications or recurrence of disease by the Wilde incision alone.

11. Plastic Surgery of the Urethra. G. Frank Lydston.

Demonstrates his methods of reconstructing the penile urethra and closing urethral fistulae by flaps from the scrotum and penis, making a double layered floor. By his new method the new urethral tube is entirely lined with skin epithelium, hence can not undergo cicatricial contraction and closure. He reported a number of cases, operated successfully by his method. The ordinary methods the author claims are failures, or worse.

12. Scopolamin and Morphin as a Preliminary to General Anesthesia. Clifford U. Collins, Peoria, Ill.

A brief reference to the literature on the subject; the relation of a personal experience with the method, and the account of more than three hundred cases in which the method was used, with the lessons learned and the conclusions formed therefrom.

13. Treatment of Varicose Veins and Ulcers of the Leg. W. S. Royce, Chicago, Ill.

Pathology or etiology very briefly. Mentions the unsatisfactory results as well as the multiplicity of ordinary treatments. The class of patients affected as well as the large number. Describe the ambulatory treatment which gives great relief, as well as often permanent cure, requiring no loss of time by patient. Will show the method on models. Give short comparison with other treatment.

14. A New Modification of the Primary Position in the Bloodless Treatment of Congenital Hip-joint Dislocation. Frederick Mueller, Chicago, Ill.

Characteristics of the primary position advocated by Dr. A. Lorenz and its results. The reasons why the Lorenz primary position must lead to failures in nearly 50 per cent. of the cases. The attempts to increase the percentage of anatomical results by modifying the Lorenz primary position. Author's primary position (neutral rectangular abduction). The technique, its results and advantages.

15. Report of Three Unusual Cases in Gall Bladder Surgery. J. E. Allaben, Rockford, Ill.

CASE 1.—Exophthalmic goiter; large solitary stone in gall bladder with adhesion about gall bladder and pylorus, causing symptoms simulating benign pyloric stenosis. Operation, cholecystotomy. Death on third day from pulmonary edema.

CASE 2.—Cholelithiasis; operation; cholecystotomy. Death on the third day. Post-mortem; cause of death obscure, probably due to autointoxication.

CASE 3.—Cholecystitis complicating pregnancy. Mistaken for pernicious vomiting of pregnancy. Gall-bladder symptoms simulating gallstone colic. Delivery of a healthy child at full term. Four months later return of symptoms necessitated a cholecystotomy. Relieved for one year when symptoms returned. Examination revealed a displacement of the right kidney of second degree. Kidney held in place by Dunning kidney pad and abdominal supporter. Relief for one year when symptoms returned. Diagnosis. Adhesions causing partial obstruction of pylorus. Operation. Numerous adhesions about pylorus released. Cholecystectomy. Dr. E. W. Andrews' operation (cholehepatopexy—colon substitution) performed. Death on third day from hemorrhage of the liver.

16. Postoperative. Gall-bladder and Gall-duct Fistulae. M. R. Barker, Chicago.

Kinds of, according to discharge from. Causes for, other than the discharge. Frequency of occurrence. Treatment.

17. Otitic Brain Abscesses. Frederiek K. Sidley, Peoria.

Emphasize the lack of recent investigations in this class of intracranial surgery, considering the pathology, symptoms and diagnosis and operative technique, paying special attention to postoperative treatment, with report of three cases.

18. Thrombosis of the Cavernous and Other Sinuses. Henry Manning Fish, M.D., Chicago.

Thrombosis of the cavernous sinus may result from any source of infection located in the region of the venous circulation that drains into the cavernous sinus, as a furuncle, an infected wound, orbital abscess, dental or alveolar abscess, a diseased tonsil, a nasal disease, etc., and it can also result from a suppurative process in the middle ear. The early symptoms of the thrombosis of the cavernous sinus (or ophthalmic vein) are such as would arise from a stasis in the periorbital venous circulation and are evidenced by an edema or transudation in the lids and tissues about the orbit, under the conjunctiva (chemosis), behind the globe (exophthalmus), intraocular (neuroretinitis, papillitis), intravaginal (retro-ocular neuritis, etc.). These phenomena are also symptoms of an affection of the nasal accessory sinuses, as shown by cases in the literature and by many personal observations. Of nearly 200 cases of thrombosis in the literature between 30 and 40 have been traced to an affection of the accessory sinuses. Although many of the other cases presented the symptoms and clinical picture of accessory sinus disease, it was not suspected *intra vitam* nor looked for at the autopsy, notwithstanding the fact that the greater share of the venous blood from the nostril and its cavities drain into the cavernous sinus (vasa supraorbitalia frontalia

ethmoidal and ophthalmofacial into the ophthalmic vein). Repeated failure to examine the nasal sinuses for the source of a thrombosis of the cavernous sinus or ophthalmic vein has led to the belief that this lesion is very frequently "primary," in fact, one would think that the ophthalmic vein or cavernous sinus was a predilection place for a thrombus. When pain, redness, swelling and edema appear in the region of the ear and a thrombosis of the jugular vein or lateral sinus is noted, does any one ever reverse the pathogenetic process and call the thrombosis "primary?" In the 30 odd cases traced to sinus disease, the latter lesion accounts not only for the thrombosis, but for the early clinical symptoms as well; hence we may be in error in attributing the early phenomena to the presence of a thrombosis; this hypothesis, the late formation of the thrombosis, will explain why the diagnosis (of thrombosis) is so often made late in the course of the disease. Certain of the causes of thrombosis of the cavernous sinus or ophthalmic vein may be but the outward evidences of a nasal sinus empyema, as, for instance, (1) a furuncle or abscess at the root of the nose or above the eyebrow by direct extension, necrotic anterior frontal sinus wall or through the minute foramina that pierce this wall; (2) orbital abscess, so long held to be "idiopathic," but which in reality is nearly invariably secondary to sinus empyema; (3) facial erysipelas (non-traumatic), generally considered to be primary, with propagation into the orbit and thence to the cerebrum, but which in most instances is but the outward manifestation of a streptococcal infection of the cavity lying underneath. This is contrary to all modern authorities, but agrees with the authors of long ago: Zucarni, Riberi and Hyrtl, and Ziem of more recent years. If the ophthalmologist would look to the nasal sinuses as a possible cause of the early symptoms, pain and the ocular lesions, many of these cases could be relieved by the proper treatment.

THURSDAY.

BORDER-LINE CASES.

1. Practical Venereal Prophylaxis. Denslow Lewis, Chicago.

Professional opinion now endorses publicity and advocates instruction of the laity. Description of methods favored by state and national societies. Criticism of attitude of lay press. Difficulties to be overcome in reaching the public. Duty of the profession to-day. Objections to obscenity laws which are shown to be unjust and uncertain. Proposed modifications to exclude quack advertisements and "smutty" literature while permitting scientific education. A consideration of the prostitute as a purveyor of infection and a recommendation for more consistent appreciation of her position in our society. The advocacy of judicious care and quarantine as a factor in venereal prophylaxis.

2. Indications for Cesarean Section. E. C. Franing, Galesburg.

3. Emesis During Period of Gestation. Edwin M. Minnick, Moline.

4. Feigned Eruptions. Frank Hugh Montgomery, Chicago.

Report of cases factitious dermatitis and hysterical gangrene, illustrating the extremes to which these patients may go; the methods employed by them and the frequent failure of the family physician to recognize the condition. Differential diagnosis. Proving the diagnosis. Treatment.

5. The Laboratory Technique of Estimating the Opsonic Index as a Basis for Vaccine Therapy. John C. Hollister, Chicago, Ill.

(a) Theoretical conceptions.

(b) Estimating the index.

1. The "cream."

2. The "pool."

3. Patient's serum.

4. Emulsion of bacteria.

5. Description of instruments.

(c) The vaccines.

(d) The relationship between vaccine therapy and passive hyperemia.

6. A Report of Two Unusual Cases. David Lockie, Pontiac.

7. The General and Local Treatment of Ulcer of the Stomach. Fenton B. Turek, Chicago.

Discussion of papers six and seven opened by L. L. McArthur, Chicago.

Ulcer of the stomach has been since the time of Virchow regarded principally as a local cellular destruction of tissue without round cell infiltration and hence with no tendency to heal. Experiments based upon local cellular pathology have been attempted to induce typical gastric and duodenal ulcer by means of mechanical, physical and chemical injuries. These attempts have all failed. The author in his own work, after failing to produce ulcer by any local means, found that he was able to do so by feeding dogs with bouillon cultures of common colon bacilli in their regular meat diet for periods extending from four to seven months. After a further period of from four to eight weeks, these last dogs were chloroformed and in every case there were found one or more gastric ulcers in various stages of healing. The author found these results most instructive as to the etiology of ulcer associated with the invasion by certain pathological intestinal bacteria upon a gastric membrane, lowered in its power of resistance.

The treatment of gastric duodenal ulcer is both general and local. (1) Upbuilding of the whole body; (2) improvement in the tone of the injured organ to increase its power of resistance; and (3) rest and the prevention of irritation of the injured part.

All these indications point in a large measure toward diet. Lenhartz' albuminous diet of milk and eggs is sometimes employed at first with gradual broadening to include rice, potatoes in the form of purée, and perhaps the addition of small quantity of meat that has been prepared as hereinafter stated, corn starch, toasted bread, butter, but no meat fats, as these fats are mostly stearin, which is not easily digested.

The author prepares all meats in these cases by a process of maceration and boiling to take out the extractive. All milk is coagulated with rennet and the whey is given. Kumyss is also used to some extent.

Mechanical treatment is also usually given in the form of lavage and gymnastics of the colon to increase general peristalsis from below; and in very favorable cases the same methods may be employed in the stomach. Great care must be taken, however, as it is a delicate performance to even introduce a tube into a stomach where there is an ulcer of uncertain location and depth. Physical methods, such as rest in bed, freedom from business or household cares and hygienic environment, are insisted upon in proper cases.

8. Symptomatology and Diagnosis of Exophthalmic Goiter. O. M. Steffenson, Chicago.

9. Partial Thyroidectomy as the Treatment of Exophthalmic Goiter. Aimé P. Heineck, Chicago.

(a) Its basis, (b) its results, (c) its technique. 1. Definition of the disease. 2. Discussion of theories. 3. Advocacy of thyroid theory. 4. Analysis of five hundred reported cases treated by partial thyroidectomy. 5. Discussion of technique. 6. Conclusions.

MEDICOLEGAL COMMITTEE.

PROGRAM, WEDNESDAY, May 22, 1907, 9 A. M.

W. A. EVANS, Chicago *Chairman.*

Meeting Place—Memorial Hall.

1. Medicolegal Protection in Its Relation to the County Medical Society. Dr. A. M. Edwards, Marion, Ill.
2. Five-minute Talk by a Representative of the Illinois Homeopathic Medical Society.
3. Expert Testimony. Dr. H. N. Moyer, Chicago.
4. The Technique and Forms of Sueing and Being Sued, and of Appeals. Mr. R. K. Welch, Attorney, Rockford, Ill.
5. The Rights and Liabilities of the Physician. Mr. J. M. Sheean, Attorney, Chicago, Ill.
6. What Constitutes Negligence. Dr. C. D. Pence, Chicago.
7. Degree of Skill Required of the Physician. Dr. C. W. Hall, Kewanee, Ill.
8. The Legal Status of the Doctor's Fee; What He Should Do When the Patient is Dissatisfied and When the Patient Sues for Malpractice. Dr. B. B. Griffith, Springfield.
9. Duties of the County Member of the Medicolegal Committee in Case of Threatened Action for Damages. Dr. J. W. Hairgrove, Jacksonville, Ill.

COUNTY AND DISTRICT SOCIETIES

ADAMS COUNTY.

The regular meeting of the Adams County Medical Society was held March 11, 1907, at the Elks Club, President Grimes presiding. Those present were Drs. Robbins, Kidd, Hart, Grimes, Ericson, J. B. Shawgo, K. Shawgo, Koch, Wells, Christie, Pfeiffer, Montgomery, W. W. Williams, J. G. Williams, Worley, Nickerson, Rice, Hinton, Mercer, Hedrick, Knox, Knapheide, and Gilliland. The morning session was devoted to the transaction of business by the Society, this including the election of R. T. Hinton as secretary to fill the unexpired term caused by the death of Dr. George E. Rosenthal and the adoption of a memorial minute for Dr. Rosenthal. At 12 o'clock the Society adjourned to the Newcomb Hotel for dinner. The afternoon session was spent in the discussion of contract practice and in the report of clinical cases.

RALPH H. HINTON, Secretary.

MEMORIAL MINUTE FOR DR. GEORGE E. ROSENTHAL.

George E. Rosenthal was born in Quincy, Ill., Jan. 7, 1873, and here also his life in the body ended Feb. 17, 1907. He was educated in the public schools of Quincy, graduating from the high school in the class of 1892. After several years' experience in mercantile life he chose the medical profession as the field for his life work, and, entering the College of Physicians and Surgeons of Chicago, the medical department of the University of Illinois, graduated from this institution in 1902. Soon after he was appointed as an assistant surgeon of the Illinois Soldiers' and Sailors' Home, located in Quincy, a position that he filled with honor and credit up to the time of his final illness. His kindness and evident interest in their cases made him a favorite with those helpless veterans who came under his professional care, and, aside from his ministrations to the sick, he took up the pathological work of the hospital and carried it to a degree of perfection that it had not hitherto attained. He also engaged in private practice in Quincy and served for two years as pathologist to Blessing Hospital. Becoming a member of this society soon after locating in practice, he had served it most efficiently as its secretary for the last three years. His reports of society proceedings, transmitted to THE ILLINOIS STATE JOURNAL, were full and accurate and gave evidence, as did his work in Blessing Hospital and that of the Soldiers' Home, of great energy and painstaking industry. He presented but one paper to the State Society, that given in May, 1906, on "Surgical Aspects in the Aged," based on observations of four years' service as assistant surgeon in the Soldiers' Home. This paper was published in THE ILLINOIS STATE JOURNAL for October, 1906, and evinces careful study of the cases reported. Aside from the unusual professional activities of Dr. Rosenthal, he found time for a devoted home life with his mother and sister, and upon them the sorrow of his untimely death will fall.

"We live in deeds, not years; in thoughts, not breaths;
In feelings, not figures on a dial.
We should count time by heart throbs. He most lives
Who thinks most, feels the noblest, acts the best."

E. B. MONTGOMERY,
W. W. WILLIAMS,
R. T. HINTON,
Committee.

CASS COUNTY.

The annual meeting of the Cass County Medical Society was held in Virginia April 8, 1907. At this time a special effort was made to have all members present, and as a result Drs. C. M. Hubbard, George Bly, C. E. Soule, J. G. Franken, J. A. Glenn, J. W. Huston, A. R. Lyle, and McGee were present, with Drs. C. E. Black, Reed and Adams of Jacksonville visiting. The regular order of business was taken up, resolutions endorsing the stand taken by the state society of Kentucky on the question of insurance examination fees were passed. The secretary was instructed to address a letter to each of the members of the legislature, as well as the senator of this district, asking them not to concur in the various bills, as pointed out by the secretary of the state board, and which are now pending before those two bodies. The election of officers resulted as follows: Dr. C. E. Soule of Beardstown, president; Dr. J. W. Huston, Virginia vice-president; Dr. C. M. Hubbard, treasurer; J. A. McGee, secretary; Dr. J. A. Glenn, delegate. Dr. George Bly of Beardstown was chosen our representative in the medical defense committee. Dr. Adams then gave a short talk on the Ottawa tent colony which he had recently visited, telling how the patients were cared for, describing the buildings and surroundings, and how plans were carried out to prevent attendants and others from contracting the disease, the means being absolute care and cleanliness, paying high tribute to Dr. Pettit for the excellent work he is doing. Dr. Black talked on the differential diagnosis of uterine tumors, showing a number of specimens illustrating the various forms of uterine fibroids, cervical and uterine carcinomas, claiming that any woman of adult life who showed for any prolonged period symptoms of cervical discharge, pain and hemorrhage, should be submitted to a thorough examination, with curettage and microscopical examination of debris for the possible development of uterine cancer, and if found, to at once remove so far as possible, which if done before the pelvic glands become involved a cure could be expected in a fair number of cases, and if the operation was performed even after the general vitality of the patient was quite demoralized they suffered much less and often lived a considerable period of time. Meeting adjourned to meet in Virginia in May, at which time the meeting of the society will possibly be changed from monthly to quarterly meetings.

J. A. McGEE, Secretary.

CHAMPAIGN COUNTY.

The Vermilion County Medical Society and the Champaign County Medical Society held a joint meeting in Illinois Hall, Champaign, March 14. At 2 p. m. Dr. J. C. Dodds, of the Champaign County Medical Society, called the meeting to order, and, as the readers of the papers on the program had not appeared, a short business session was held, at which time the routine business was taken care of. Dr. J. F. Hilgenberg, Pesotum, member of Douglas County Medical Society, was elected a member of this society. After recess the following program was given:

Dr. J. S. Mason, of Urbana, read a very interesting and complete paper on bronchitis. He mentioned briefly the tissues affected and reviewed the different treatments recommended by text-books and various authorities, and gave it as his own opinion that there is too much treatment in these cases and made a plea for more simple treatment and less complex compounds. The paper was ably discussed by F. H. Powers, Yantio, Hoffman and Gray, of Champaign, and Bumstead, of Piatt.

Dr. F. H. Powers, of Champaign, read a paper on diabetes mellitus, which showed much work in its preparation, and reviewed the subject both from the literature and from the author's own experience. This paper was discussed by Drs. Bumstead of Piatt, Cooley, Davis, Dodds and Mandeville of Vermilion. This closed the afternoon program and the visitors were entertained at supper at the Beardsley Hotel.

The session was resumed at 7:45 p. m., with Dr. Wilkinson, vice-president of Vermilion County Medical Society, in the chair.

Dr. A. M. Miller of Danville read a well prepared paper on Surgery of the Lung and Pleura in which he cited a number of cases in which operation of choice was the best treatment, while in some cases, usually operative, he suggested palliative measures or minor operations. Dr. Wall of Champaign led the discussion, followed by McCoy of Vermilion.

Dr. H. E. Cushing of Champaign read a paper on Pneumonia which showed much thought and careful preparation. Dr. LeRoy Jones of Vermilion led the discussion, followed by Walton, McCoy, Fischer and Current of Vermilion, and Johnson, Bartholow, Hoffman, Mason and Kemp of Champaign.

The regular monthly meeting of the Champaign County Medical Society was held in the parlors of the Hotel Beardsley, April 11, at 2 o'clock, President Dodds in the chair and twenty-nine members present. The following papers were read: H. J. Morton, The Care of the Pregnant Woman and the Management of a Normal Case of Labor. This was a well prepared paper and brought out a free discussion lead by W. K. Newcomb. C. E. Betto's paper on Enteric Diseases of Children was well prepared and received much praise, as this was the reader's first appearance before the society. The discussion was free, led by T. J. McKinney. Charles H. Spears read a paper on Adenoids, in which he advised a short general anesthetic for their removal. This brought forth quite a discussion, led by H. V. Watson.

At the business meeting it was decided to omit our regular May meeting and attend the semi-annual meeting of the Æsculapian Society, which meets in Champaign. It was also voted that the Champaign County Society entertain the members of the Æsculapian Society at the time of their meeting. Five dollars was voted appropriated to the memorial fund of the state society. It was regularly moved and seconded and unanimously carried "That it was the sense of this society that fees for operation and full fees for attendance be charged for pauper cases on orders from the supervisors, and that this shall go in effect at once and be binding on the members of this society." The delegate to the state society was instructed to present to the House of Delegates the resolution on insurance examination passed by this society and use his efforts to have the same adopted. The matter of certain insurance companies taking applicants from this county to Vermilion county for examination at the reduced fee was reported to the society and a committee was appointed to use its efforts in getting Vermilion County Society to adopt the insurance resolution. Society adjourned to meet in June.

COOK COUNTY.

CHICAGO MEDICAL AND CHICAGO PEDIATRIC SOCIETIES.

Joint meeting of the Chicago Medical and Chicago Pediatric Societies, held Feb. 27, 1907, with the President of the Chicago Pediatric Society, Dr. J. W. Vanderslice, in the Chair.

SYMPOSIUM ON SCARLET FEVER.

Papers were read as follows: Etiology and Pathology, by Dr. Ludvig Hektoen. Prophylaxis, by Dr. Heman Spalding. Clinical History and Diagnosis, by Dr. John M. Dodson. Atypical Cases, by Dr. M. P. Hatfield. Treatment, by Dr. A. C. Cotton.

The discussion of this symposium was opened by Dr. H. Manning Fish and continued by Drs. William L. Baum, H. B. Hemenway, H. W. Cheney, O. Tydings, H. G. Vaughan and A. H. Burr.

DISCUSSION OF PAPERS ON SCARLATINA.

Dr. H. Manning Fish:—There is one condition to which I desire to call attention; it was referred to by Dr. Cotton in his paper, and that is the coryza frequently following scarlatina. Following an epidemic in 1900 in Paris, Chausserie-

Lepree published a thesis on "Purulent Nasal Catarrh Following Scarlatina." His thesis was based on a study of 37 cases of purulent nasal catarrh, 18 of which terminated fatally. Now, nasal catarrh of itself is not necessarily dangerous, but if this condition involves the sinuses and free drainage is not established, it may cause very serious complications, either on the part of the eye, the brain, or by metastasis may implicate other organs.

One of the serious ocular complications following scarlet fever is disease of the optic nerve, which is usually attributed to a toxemia. But as this condition generally appears during convalescence, and may manifest itself weeks or even months after the child is about and playing, this fact alone would seem to argue against a toxemia as being the cause of the eye trouble. By establishing free drainage of the sinuses, the acute optic neuritis will generally yield immediately, hence the treatment should be directed toward the sinuses in place of being limited to the administration of potassium iodid, strychnin, sweats, etc., the usual method of treatment of optic neuritis. I believe, too, that a purulent empyema is frequently the cause of many cerebral complications, owing to the intimate vascular supply between the cranium, the orbit and the sinuses.

Dr. William L. Baum:—I was informed a few moments ago that I would be asked to say something about Duke's disease. While I have searched high and low for a case of Duke's disease during the recent epidemic of scarlet fever, and in previous epidemics, yet I have been unable to find a single instance which tallies with the description of the disease described by Duke in the *London Lancet*. The fact of the matter is, even considering the closest approach to the various forms of scarlet fever and German measles, I have yet to find the first case of Duke's disease.

I would like to say a few words in connection with the differential diagnosis between scarlet fever and measles, as during such epidemics as we have recently experienced there are so many mild atypical cases of the disease that the differential diagnosis is very important. The diagnosis is comparatively easy when we have to deal with such typical cases as those described by Dr. Dodson; but when we consider the atypical ones described by Dr. Hatfield, then the differential diagnosis becomes more interesting.

At the Cook County Hospital we rely on examinations of the blood in all doubtful cases. We get many cases in which there is a history of vomiting, and, like Dr. Hatfield, we look with suspicion upon any diagnosis of scarlet fever that is made on the strength of vomiting and fever. For that reason, the leucocyte count is of the greatest importance. For instance, in the differential diagnosis between the milder forms of measles and of scarlet fever or other eruptive disorders, we always find in the mildest forms of scarlatina a decided leucocytosis. This is of extreme value in the beginning of the disease. In diphtheria we do not find it in the rashes which are caused as a result of doses of antitoxin, where we find a leucopenia present. In the case of small children, in whom there may be digestive trouble, leucocytosis from the differential count is of more importance than a simple leucocyte count. There we get a decided leucocytosis as the result of intestinal indigestion.

Another point which has not been brought out in this discussion is the enlargement of the glands. Even in the mildest cases we will find, as pointed out by Schamberg some ten years ago, enlargement of the epitrochlear glands, and also in about 80 per cent. of the cases the glands of the groin are enlarged. Any one of these symptoms taken by itself is not of very great importance, but taken together, even in the absence of eruption, they can be considered of the greatest importance, and we have no longer any danger of putting in among our scarlet-fever patients patients who are not suffering from the disease.

Let me say a few words as regards the prophylaxis, a subject that was considered by Dr. Spalding. I heartily agree with him that the minimum period of isolation when a patient should be allowed to go to school is six weeks, no matter how mild the attack may have been. I thoroughly believe that infection can be transmitted as late as four weeks, and as long as we have the present system in vogue of relying on the family physician, a small minority of whom

are very lax and who want to fumigate houses at the end of three weeks, just so long will we have a recurrence of scarlet fever in our community. I believe it is a small minority of physicians who are responsible for the great epidemic of this disease through which we have recently passed.

In this city the physicians should do all they can to stand by the Health Department, and particularly the Department of Contagious Diseases, and see that our public schools and other places are properly disinfected. Most of you will remember that Dr. Christopher was a member of the school board in 1896 to 1898. He advocated the thorough inspection of our schools. As soon as school inspection was undertaken, there was a decided decline in the number of infectious cases that were sent to the County Hospital. On the other hand, just as soon as medical inspection of schools was suspended, there was a gradual increase in the number of cases of infectious disease. I believe that medical inspection of schools should be permanent, and the Chicago Medical Society, through its Council, should take this matter up and see to it that there are at least 100 inspectors appointed for a certain period every year, and that such inspectors shall be responsible for conditions in their respective districts. We should assist the City Health Department in this work. Physicians who are lax in regard to establishing proper quarantine and in raising it too early are culpable, and should be condemned by other members of the profession.

Dr. H. B. Hemenway, Evanston:—I regret very much that one of the papers on the program was not read, inasmuch as the author undoubtedly would have dealt with the relation of the milk supply to the epidemic of scarlet fever. I live in Evanston, and in many respects we have been in a better position to consider some of the points in relation to the epidemic of scarlet fever than have those who live in Chicago. I wish to say, too, that I am not connected with the city government of Evanston; but I have had access to their books, and have in my pocket a list of the cases that have occurred and have been reported to the City Health Department since the 1st of last August, and, with your permission, I will give some of the particulars of the outbreak of scarlet fever in Evanston.

Since the first of August there have been reported to the Health Department of Evanston 221 cases of scarlet fever. The population of Evanston is variously given as from 22,000 to 25,000. The disease began in a scattered way in August, the 19th of August being the day when, I think, the first case was reported. Then, toward the last of August and 1st of September there were several cases until the 13th of January. The total number of cases before the 1st of January was 24. During the month of January there were 184 cases. In that period, that is, from the 1st of August until the 1st of February, 88 per cent. used the same milk supply. The cases of scarlet fever were not limited to any section of the city, school, church or society. The disease was not normally limited as to age. Out of 203 cases in the private practice of Smith and Oeterlony, only 22 were over 10 years of age. Out of 209 in which I have age records, 93 were over 10. Above 15 years the record is: 16 years, 9 cases; 17 years, 3 cases; 18 years, 6 cases; 19 years, 4 cases; 20 years, 5 cases; 21 years, 6 cases; 23 years, 1 case; 25 years, 3 cases; 26 years, 1 case; 29 years, 2 cases; 30 years, 3 cases; and one each of ages 32, 33, 35 and 40.

One dairy company supplied about one-seventh of the milk in the city of Evanston. This estimate is based upon the number of wagons licensed and checked by other means to be correct; although the same company supplied Edgewater and Rogers Park from this depot, the figures given are for the city of Evanston only.

From Aug. 28, 1906, to the present time there were reported to the Health Department 221 cases of scarlet fever, and in a large majority it was found that they were using milk, cream or condensed milk from this dairy. When the first outbreak occurred last August, the company was asked to change its source of supply. We now find that at that time a capper (Strickland by name) in the Genoa Junction plant was desquamating. His physician (Dr. Bradley) pronounced it a case of blood poisoning. Soon after this two of his working mates,

Miller and Myers, had scarlet fever, and Myers was quarantined therefor. More recently there was scarlatina in the families of farmers and employes shipping milk from Genoa Junction.

In Evanston there had been a few cases (a total of seven) reported up to and including January 13. The number of cases reported each day in the month after that was as follows:

January 14, 13 cases; January 15, 35 cases; January 16, 28 cases; January 17, 18 cases; January 18, 20 cases; January 19, 19 cases; January 20 (Sunday), 4 cases. Total for week, 137 of one dairy company. January 21, 14 cases; January 22, 4 cases; January 23, 4 cases; January 24, 1 case; January 25, 6 cases; January 26, 6 cases; January 27, 1 case; January 28, 1 case; January 31, 3 cases. Total, 177, of whom 88 per cent. were patrons.

Dr. Parkes, our commissioner, on January 15, ordered that no more milk be received from Genoa Junction, and the company agreed to ship from Hebron. According to our best knowledge, the first ear from Hebron was shipped January 17. It was received January 18, but owing to the rules of the Milk Drivers' Union, it was delivered after breakfast, so that much of it would not be used until the next day. I think it was January 26 when the Chicago Department stopped the Wisconsin milk, and in that week, when we had practically checked the disease, in Chicago the number of cases reported reached a high-water mark.

All of this goes to show the necessity for a thorough and frequent examination, not of the milk alone, but of all connected with the industry, including the families of the farmers, the employes of the company and the cattle.

After the harm has been done it is difficult to get definite information. Self-interest stimulates the guilty to hide the evidence of crime. One thing more, and this is extremely important: The process of butter-making and condensing of milk does not make them sterile. Evidence seems to show that cream is more likely than the milk to carry the disease. If so, may not many obscure cases originate from butter or condensed milk, which is more difficult to trace than ordinary milk?

Dr. H. W. Cheney:—Dr. Cotton spoke of the serum treatment of scarlet fever. Last summer I studied a series of cases treated with the Moser scarlatina streptococcus serum in the words of St. Anna's Children's Hospital in Vienna. The Moser serum is developed by making bouillon cultures from the heart's blood of children who had died of scarlet fever, and these cultures are run through the horse much after the manner that diphtheria serum is made. This serum is injected into the scarlet-fever patient. The action of it begins to manifest itself in from eight to twelve hours, in that a marked fall in temperature occurs, oftentimes the temperature dropping to normal within twenty-four hours and continuing there or nearly so. The pulse shows much the same change. The rash, when the injection of serum is given early, either does not develop or fades away more rapidly than usual. Perhaps the most noticeable change is a marked betterment in the general condition of the patient. The patient begins to sit up and take notice of his surroundings, asks for food, and the severe symptoms, such as restlessness, delirium, and somnolence, usually disappear quickly. The change which occurs in the clinical picture is oftentimes as prompt and more striking than what we have seen after the use of diphtheritic serum.

The workers in Vienna at this hospital are confident of the value of this serum, and their statistics seem to show that results are more than favorable. The serum has been used there since 1900. Before that time the mortality from scarlet fever at this hospital was 15 per cent. Since 1900 the mortality has averaged less than 9 per cent.; whereas the mortality in the other hospitals of Vienna, where the serum is not used, or was not during this period since 1900, has averaged 13 per cent. The serum has been given in over 200 cases. Only the severest cases are injected with the serum.

There are some objections to the use of the serum, such as the enormous dose necessary to be given (from five to six ounces) at one time. Scarcity of the serum is another objection; also the expense of a single dose.

Moser, Escherich and their co-workers are fully convinced of the value of this treatment, and I think their results lead us to expect that in the near future we will have a serum for scarlet fever, developed either along this line or some other line, which will be free from objectionable features and more certain in its results.

Dr. O. Tydings:—I wish to call the attention of the members of the Society to the fact that the successful treatment of scarlet fever rests principally upon treating the complications which arise during the attack of the disease. Observation has demonstrated the most frequent cause of the serious complications arising in cases of scarlet fever has been due to diseased conditions of the nasal passages and throat. I believe, if we will take a child with a normal throat and nose, that child will escape the severe phases of the disease, whereas a child that has adenoids or hypertrophied tonsils will suffer from the severer forms of disease. When we consider that 10 per cent. or more of all cases of deafness in our institutions are due to ear troubles arising from eruptive diseases, and that the method of extension in the majority of cases is by direct continuity of mucous structures, and the very few in which infection is conveyed directly to the middle ear or labyrinth by way of the blood supply, as before stated, the majority of them arise from extension by direct continuity of structure through the Eustachian tube. Then the question of hypertrophied tonsils and adenoids impinging upon Eustachian tube interfering with the ventilation of the middle ear becomes an economic question far-reaching indeed. It therefore behooves the general practitioner to see that the nose and throat of every child committed to his care is properly protected against extension by this route. I believe if the plan of seeing that the nose and throat of each and every child are put into a healthy condition, the number of middle ear or sinus complications would be few indeed.

Dr. H. G. Vaughan, of Oak Park Board of Health:—Since the doctor from Evanston (Dr. Hemenway) spoke about the condition there, it might not be amiss for me to say a few words with regard to the epidemic of scarlet fever in Oak Park. I believe it is perfectly possible for an epidemic of scarlet fever to be produced by milk that has been infected. But I also wish to say, we should be very careful to have all of the facts before we draw any conclusions. We have 15,000 people in Oak Park. We have had approximately 110 cases of scarlet fever there, running much the same course as those in Evanston, and with suspicion resting upon the same milk supply. I have been a patron of the company for years. I tried to be conservative and did not act immediately, but did so later, and cut off that milk supply, and then as a member of the Board of Health spent ten days in investigating the outbreak of the disease. I went to the source of supply at McHenry. I secured from the railroad company at Oak Park the number of every car of milk that came into Oak Park for that company, and checked those cars up with the records of the railroad company and also those of the milk company at McHenry. So far as I could learn, our supply of milk came from McHenry only. I then visited every farm that supplied the McHenry plant. I secured information from other people wherever possible, and I found where there had been one positive case of diphtheria; one family where there had probably been diphtheria and one family where, if we accept the statements of a 12-year-old (but very bright) child, there may have been some very mild cases of scarlet fever, but if we accept the statements of the father and the mother, there were none, at least they had no physician during the time of the sickness. I could not draw any conclusions from the evidence given in that case. This was the only case of even a suspicion of scarlet fever anywhere in that district. When I took the list of families in Oak Park having scarlet fever and ascertained their milk supply, I found that the same dairy company supplied 68 per cent. of the entire number of families affected. But according to their information they were supplying 1,575 families with milk in the village. On the basis of 15,000 people, which is a very close estimate, and estimating five to a family, we have 3,000 families in the village. We find that this company was supplying 50% per cent. of the families. We see, then, that they had 17% per cent. more cases than they supplied milk to. Now, our epidemic at the

beginning was mostly in the northeast and southwest portions of the village. In the northeast part the same company have most all of the business, and so they had many cases here. In a milk epidemic the cases would have followed all of the supply. Some of their wagons did not have a single case throughout the epidemic.

Before we had carefully calculated or made our investigation, it looked like a foregone conclusion that one company was responsible for the epidemic. They may have been, but with all the facts and information that we could get after a careful investigation we did not feel warranted in drawing any such conclusion. May not this be the condition in Evanston, if followed up thoroughly? It would have been an easy matter years ago, when one farmer supplied a community with milk, to decide whether or not a milk supply was the cause of an epidemic of scarlet fever; yet how many mistakes were made? Where we have a company using the milk of a hundred farmers, as is the case here, it is much more difficult to attribute an epidemic to that supply. We should be careful and positive of our ground, but always be on our guard and demand a rigid medical inspection, but before we say a certain milk supply is responsible and disturb the public confidence in that supply we should have conclusive evidence.

Dr. A. H. Burr, Rogers Park:—Another section that has suffered from an epidemic of scarlet fever is Rogers Park, where I live. The disease broke out simultaneously with the epidemic in Evanston, and was said to be traceable to infected milk supplied by one company of milk dealers. It was found that the fifty or sixty families who first developed the disease, without a single exception, procured their milk from the same milk company. Other milk dealers supplied as many families as this one company, yet the families supplied by the other companies were exempt from the disease. So, it seems to me, there can be no doubt that the epidemic of scarlet fever in Evanston and Rogers Park had its beginning from the milk supply coming from Genoa Junction. No other explanation is possible when the line is so clearly drawn and clean-cut as in Rogers Park and Evanston.

CHICAGO MEDICAL SOCIETY.

A regular meeting was held March 6, 1907, with the President, Dr. George W. Webster, in the chair. Dr. Archibald R. Small read a paper on "Treatment of Incomplete Abortion," which was discussed by Drs. John A. Lyons, Rudolph W. Holmes, Anna E. Blount, and the discussion closed by the essayist. Dr. Hugh T. Patrick followed with a paper entitled "A New Treatment of Trifacial Neuralgia, with Report of Cases." This paper was discussed by Dr. D'Orsay Hecht, and the discussion closed by Dr. Patrick. Dr. J. Rawson Pennington read a paper entitled "A Method of Operating for Fistula in Ano by which the Contour of the Anus and the Functions of the Sphincter Muscles Are Preserved."

DISCUSSION ON DR. SMALL'S PAPER.

Dr. John A. Lyons:—Instead of dividing abortions into three classes as he does, I prefer to make four or even five classes: (1) natural abortions, (2) accidental abortions, (3) artificial abortions, and (4) criminal abortions.

The first class of natural abortions would come under the head of those abortions due to a diseased ovum, or diseased spermatozoa. The second, or accidental abortion, may be, however, a combination of a natural and of an accidental abortion, for the embryo of the so-called natural abortion, because of the diseased condition of either parent, is always gasping for a little more pure blood, and, being unable to obtain sufficient pure blood, even though the mother be saturated with the protoiodids, or other necessary drugs, this dying embryo's grasp on uterine attachment is easily shaken loose by a very slight trauma, or perhaps by a maternal shock due to some sudden fright. There is, however, an accidental class due entirely to trauma, and, this trauma being purely accidental in character, for instance, railroad accidents, or a sudden fall some distance, may directly kill the fetus outright. This class should, therefore, be entirely distinct from the natural class and headed under the second or accidental class.

Artificial abortion may be, and, indeed, is sometimes, necessary, but this is so very rarely the case that I am prone to warn my fellow practitioners against its production without first having carefully studied the patient. In all my practice I have seen but three, possibly four, women who would surely, in my judgment, have died had not artificial abortion been produced, and most of these would have died from starvation in spite of the best care and treatment. Artificial abortion, however, is always unjustifiable without a strong consultation with honorable, learned physicians, and when undertaken it should be done with perfect cleanliness, assisted by careful intelligent physicians and nurses; otherwise a stigma may attach not only to the patient, but to ourselves; and by that I mean not only our professional friends, but other members of the profession, the patient's friends, her neighbors, and if the abortion is produced at a good hospital, which is preferable, the visiting staff and nurses there, who, for professional reasons, we can not take into our confidence, all or any of these may stigmatize us as abortionists, and very few, if any, here would, I imagine, like to be known as such.

Criminal abortion is now, and has long been, a trying question, and if I dwell a little upon it please bear with me, for I have always had, perhaps, as all of you may have had, a desire to prevent some of it, and I rejoiced when you created a standing committee to investigate and, if necessary, prosecute these criminals. I hope that committee will be a constantly active and vigilant one; but the public assertion of its chairman recently, that the abortionist is exceedingly hard to trap and prosecute, may be substantiated by many illustrations like the following:

About a year ago a young man informed me he was going to marry a certain woman; that she was interested in a sanitarium on the Northwest Side of this city, her partner in the business being an advertising physician who cared for ladies in trouble. I was given to understand that she was tired of the nefarious business and wished a division of the sanitarium outfit that she might settle down to a quiet married life, and I was asked to assist in having the division made. With her assistance we soon succeeded in breaking up the practice; but in less than four months this young man's wife and her physician friend were again practicing together, notwithstanding threats by my attorney and her husband to have both of them arrested and taken before a grand jury. But to defeat us the woman asserts her previous statements regarding their practice were not true. She and the physician defied us to prove their guilt, and they are again killing many if not all of the children, and I have no doubt many women for the death of whom an advanced fee may be paid because of ill treatment or exposure, which to some women would be worse than death, many women placing themselves in the hands of such fiends for the production of criminal abortion, though guilty perhaps before our laws and those of God, are often deserving of sympathy and perhaps forgiveness, and to substantiate this I could cite many heart-rending truthful tales of abuse by brutes of husbands, from whom these wives either can not or will not part. On the other hand, the great majority of such abortions could easily be avoided, and perhaps this is a good place to say that in late years I have noticed many professing christian women who are more persistent now in having criminal abortion produced than ever before. In former years I could always scare a good Catholic or a good Lutheran woman against proceeding with their criminal intention, but now even many of them simply say they can not afford raising children, and nothing will prevent them from destroying their offspring rather than to bring them into the world, not always because they are so poor they are unable to feed and clothe them, but because either one or both of the parents are either money mad or wish an enjoyable easy time. That few, if any, of the parties to this criminal practice are endowed with a philanthropic spirit is patent when it has been practically established to the satisfaction of my mind, at least, that there are vultures with intelligence enough who have passed the rigid law examinations required to become attorneys, but who should not and who would not be tolerated by that honorable profession if their *modus operandi*, especially in personal injury cases against this city, were thoroughly known and investigated. And let me not be understood as reflecting upon the law profession in general when I inform you that I have in mind a case against this city wherein

I was fully satisfied that there had been at least one case where, after a criminal abortion had been produced, either with or without their knowledge, their emissary or outside man was set to work, finding a broken sidewalk unfamiliar to their client, who was thoroughly coached to fall into it; the emissary raising an alarm, calling the police ambulance, and, of course, the city is again fleeced out of a large sum for personal injury supposed to be sustained by their client. But, thanks to the noble Smulski, aided by the honorable high-minded law firms of the city, such proceedings have been stopped, and with a little constant vigilance on the part of the law and the medical profession can never again be safely practiced.

Criminal abortion is never indicated, should never be done, and never is done except by criminals, who are not yet indicted, tried by a judge or jury and sentenced; but who should have been tried and sentenced for something else long before he or she reached the stage of wholesale murderers, for such they are, and to God alone possibly are they amenable, and by Him will they surely be punished.

Twenty years ago I heard Dr. Dickinson, who is now professor of obstetrics at Long Island College Hospital, in Greater New York, say practically these words, in a lecture on criminal abortion: "Gentlemen, if any one wants you to perform a criminal abortion for them, and promise they will never tell any one, do not believe them, for when the woman approaches the jaws of death she will weaken; she will tell; you will be found out, tried and perhaps proven guilty. And may God have mercy on your souls."

To-day, after a large experience in these cases after they have left the dirty hands of the abortionist, I can substantiate his statement and give the same advice. I operate and care for such cases, when I must, practically in the same manner as Dr. Small, and with uniformly good results. When I have positively made a diagnosis of incomplete abortion, I clean out the uterus at once; do so as thoroughly as possible with the sharp curette; in fact, I seldom use a dull one. I then swab with a 95 per cent. carbolic acid solution, follow it with alcohol; then thoroughly wash the canal with an abundance of lysol or sterile water, dry it, and pack well with drawn iodoform strips, and I have never regretted following this line of treating an incomplete abortion, especially during the early months of gestation. Of course, you all know that during any period, but especially during the latter months of pregnancy, the flaccid, thin walls must be very carefully handled by either the hand, the sharp or the dull curette, to avoid puncturing the uterus.

Again, in suspected or established sepsis, as indicated by a high pulse rate, the greatest care must be used both in examinations and in operative procedures not to open up new areas of infection, for in many such cases the sharp curette, the dull curette, and even digital curettage, are contraindicated, and often, indeed, even irrigation must be most carefully resorted to.

Dr. Rudolph W. Holmes:—As I so thoroughly disagree with the views expressed by the essayist, I hope he will appreciate my position as being due to one who is on the opposite side of the question; and if I should speak with considerable fervor it is because I am expressing my very firm conviction. Please do not consider me too pessimistic in some of my views—if I am so it is due somewhat to the fact that I have had the fortune or misfortune, I hardly know which, to represent the Society for about two years on the Committee on Criminal Abortion; I am going to speak of certain things which I have gathered from this experience.

As I see it, a very large proportion of abortions are the result of criminal intent; I believe I am fairly conservative when I state fully 90, if not 95, per cent. of abortions are due to illegal actions. Sooner or later, circumstances will arise in the lives of most women who have had abortions which will require a confession as to how the interruptions of their pregnancies were brought about—too often they will break their faith with their abortionists by divulging their names.

The treatment of incomplete abortion is a comprehensive subject and not such a simple matter as some would have us believe; neither is the indication for

interference always a perfectly clear one. As I see it, no abortion in progress (incomplete) may be intelligently handled unless the physician considers all possible phases of the case. If there be hemorrhage it is one thing, if sepsis it is quite another thing. The question of the condition of the patient, the urgency of symptoms, condition of the cervix and os, the accessibility of assistants, the presence of an armamentarium, all have their share in determining the method of procedure. While the indications are fairly clear in the presence of hemorrhage, they are not so in septic cases. Omitting all other considerations for the once, there is one of two things to do in an incomplete abortion—to control hemorrhage and to combat sepsis; sometimes both are to be met with in the same patient.

In the presence of hemorrhage two methods are open—one which is obstetric and the other a surgical procedure. The obstetric treatment comprehends the use of the tampon; the tampon may be used in a case with a closed or dilated os. The best material for the tampon is absorbent cotton rung out of lysol solution; pledgets the size of a large pigeon's egg offer the best means of introduction; by careful application possibly so much as an eighth of a pound or more may be used. The common failure in the utility of a tampon comes from insufficient care in *packing* the vagina. The tampon arrests hemorrhage and stimulates the uterus to contract—contractions should be encouraged by the use of ergot, hydrastis and cimicifuga in repeated doses. When the tampon is removed within twenty-four hours the os will be found dilated, and often the remnants of the ovum and decidua will be found on the tampon. If the contents have not been expressed, then we may renew the tampon, or, if facilities are present, remove the contents of the uterus by digital curettage.

In the surgical method, if the os is undilated, it may be opened by means of the graduated dilators of Hegar or the branched dilator of Goodell; the os should be dilated to permit the introduction of the finger. The finger will break down the decidual wall, when by bimanual compression it may be expressed, or with a wide-mouthed forceps or placental forceps the decidua may be removed. The bimanual digital removal of the products of conception and its envelop is the only certain and safe method; practically the only chance of failure lies in a woman who is abnormally fat or has an unusually tense abdomen—anesthesia will generally remedy the difficulty.

Curettage is comparatively rarely indicated: I am as firmly convinced of it as was that grand old obstetric master, Schroeder of Berlin, who twenty, if not thirty, years ago deprecated the promiscuous use in obstetrics. As a means of cleaning out an abortion I believe it should be limited to those few urgent cases of early abortion where it is impossible or inexpedient to secure sufficient dilatation for digital cure. As the line of cleavage between the decidua and uterine wall is so clearly defined, a sharp curette should not be used under any circumstances, as it is unnecessary; a blunt instrument will loosen this decidua at the line of demarcation just as well as a sharp appliance, and without the risks of grave traumatism.

Is the curette a dangerous instrument? I agree with Van de Warker, who calls it a dangerous instrument. Is not an instrument and its use dangerous when there are consequences of the operation of curettage? The citations I am about to give you are from the practice of some of our best operators, not tyros of the profession: A woman endeavors to persuade three or four physicians of repute to abort her—she finds a would-be gynecologist of repute who takes her to the hospital ostensibly to repair a cervix or perineum. When anesthetized he decides to curette with the approbation of the husband. As a result the uterus is perforated; a laparotomy is done, and the fetus is found extruded from the uterine perforation. Every little while an instrumental perforation is found in a woman dead from criminal abortion. Every gynecologist in his candid moments will tell you he has curetted the non-puerperal uterus and has had the misfortune to perforate—this danger is greater in an abortion. Some years ago one of our great gynecologists curetted a woman, repaired her lacerated perineum and cervix—between seven and eight months later she gave birth to a full-time baby. One of our principal obstetricians, some years ago, likewise curetted a woman, but her

full-term baby was born well within the period of nine months from the date of operation. A prominent member of the profession curetted a woman for an incomplete abortion; he tamponed, and the next day the gauze was removed—some hours later the patient expelled a placenta nearly fully developed. I know a well-known surgeon who removed a fetus and considerable decidua from a uterus by means of the curette. The next day the uterine tampon was removed. Shortly thereafter the nurse called the interne, and the interne hurriedly called the attending man; he was shown a fetus which had just been expelled. Resourceful as ever, he explained, "Why, she had twins!" This experience of leaving smaller or larger pieces of uterine content after curettage is not such a rare occurrence as you may imagine. I believe it should be held axiomatic that it is impossible to curette a puerperal uterus completely, for it is physically impossible to remove effectively and completely a non-pregnant endometrium by a curette—area of mucosa necessarily must be left behind. Dr. T. J. Watkins of this Society has amply proven this to his satisfaction, for in a considerable series of cases he has curetted uteri preliminary to hysterectomy; on opening the uteri after the operation he has found that the mucosa at the cornua and the sides of the uterus is not touched.

There may be no question of the expediency and the therapeutic value of a careful gynecologic curettage, using a sharp instrument, but in obstetrics I am convinced a sharp curette is unnecessary and needlessly dangerous. I will grant you that in exceptional cases a blunt curette may be used in the course of an incomplete abortion, as when the os is slightly dilated, but after every instrumental cleaning of the puerperal uterus *there should be a careful digital revision of the uterine cavity*—by this means only may one certainly know that the uterus has been emptied. For the larger proportion of cases the finger alone will accomplish all that is needed.

To curette all cases of puerperal uterine sepsis is an anachronism. I am not now considering any treatment for extrauterine septic complications. To treat by operation any case of puerperal sepsis without clearly knowing the location of that sepsis can not be too strongly condemned. I have seen women, and often their dead bodies, who have had their uteri curetted in abortions, for the cure of pus tubes, peritonitis, septic pneumonia, and metastatic abscesses. Broadly speaking, treatment of pure intrauterine sepsis (so-called septic endometritis and metritis) can not be considered to be either scientific or proper unless one is able to differentiate between the septic and putrefactive infections. Oftentimes cultures alone may determine the course to pursue. Further, to enter a uterus with any instrument unless there is known to be left decidua or portions of the secundines directly jeopardizes the life of the woman. The researches of Bunm, Williams and others in the histologic conditions in septic uteri has not been sufficiently accentuated in the minds of the general practitioner. These men have shown that Nature endeavors to wall off the infective area within the uterus as well as in walling off abscesses in the body generally. This abscess wall in the uterus, if you please, this line of barrier to infection, or the reaction zone of Bunm, as it is variously called, is well developed in cases of mild septic infections or in putrid absorption. To enter the uterus with a sharp curette not only will not bring away all that is desired, but in addition may break down, and usually does, the reaction zone of Bunm. A raw wound is produced, absorption of the infection is aggravated, as is too frequently evidenced by chills, rise of temperature, and acceleration of pulse with a distinct change for the worse. Again, the uterus must be cleaned out in the gentlest manner possible; the finger alone may do it. To remove the products of pregnancy (decidua, placenta, membranes) is good obstetrics; to attempt the removal of the thick pultaceous exudate from the uterine wall in a putrefactive infection is little short of criminal; likewise to curette a uterus infected with a virulent streptococci is directly the cause of many deaths. I once saw a case where the physician went three times a day to his patient, and on each visit curetted (?) the uterus. After one digital cleaning the uterus should not be entered again; if you find it necessary to operate anew, it means that the first operation was incompletely done. In this same category is

the routine intrauterine douche. By all means give an intrauterine douche after every intrauterine manipulation; I am convinced the routine employment of the douche is not only an injury to the woman, but is an absurdity based on very palpably evident false conclusions. The uterus is a self-draining organ; feeble contractions of the uterus will keep it empty almost always—ergot aids this spontaneous expulsion of lochia. The bacterial flora is always buried in the mucosa and even muscular layers that no douche may reach them. Fowler's position is just as effective in obstetric complications as in surgical affections—it aids drainage.

The report of the Committee of the American Gynecological Society showed clearly that curettage of a uterus infected with streptococci was followed by a mortality of nearly 20 per cent., while in the same infective cases treated by non-operative measures the death rate was between 3 and 4 per cent.

The gynecologist sends his patient for curettage to a hospital; she is shaved, scrubbed, sterilized, purged, etc., before the anesthetic is administered, and again the cleansing is carried out when everything is ready for the operation. The gynecologist knows that it is a dangerous operation. He has a full corps of assistants and a proper armamentarium. On the other hand, too often the attendant on an abortion case takes none of the necessities of a proper surgical technic into consideration. He operates alone—or perhaps he has the husband or a neighbor to give the anesthetic. The secrecy thus self-imposed opens him to suspicion of having done the criminal operation, as has been the case in three instances which have come to the attention of the committee I represent. Aside from the surgical necessities no physician should undertake the care of an abortion unless he is backed by the presence of a brother practitioner.

I want to tell you that too often the bodies of women, dead from criminal abortion, show no evidences of surgical preparation for the so-called secondary operation, that is, the vulvar hair is very rarely shaved, or even clipped. I have seen bodies on which accumulations of dirt were visible in vulvar hair. This shows that some physicians do not take sufficient care in surgical preparation. Possibly some are men, internists, who have no surgical training, or even predilection for surgical work. I fear too many physicians believe that as the woman already is infected she cannot be infected more—therefore, asepsis is not needed. A fundamental principle of infection is that a pure culture of a certain virulence is rendered infinitely more dangerous to the woman by the introduction of another type of germ. Insufficient washing of hands, sterilization of the woman, instruments and dressings are the direct causes of most of our sepsis. I am sure some women are placed more in jeopardy by the operation which is supposed to lend her succor than by the criminal operation itself; deaths undoubtedly occur as the result of the interference of the physician who performed what should be a life saving operation.

That I do not stand alone on this question of curettage permit me to quote from this report of a legal case occurring in Germany: A young physician curetted a woman for an abortion. She died of hemorrhage and perforation of the uterus. At the trial, the young man being indicted for "culpable negligence," Dr. Reinicke laid the whole blame on him. Professor Landau laid it on "the present state of scientific knowledge and the defective clinical training of students. . . . Moreover, science followed the fashions, and there was a widely-spread school that had given up the plan of observation and waiting, and taught a method of treatment that the witness must characterize as brutal, and must, therefore, lead to brutal consequences. The accused appeared to belong to this modern school. The woman was, therefore, not the victim of his negligence, but the modern tendency of medicine."

Dr. Anna E. Blount:—I think the classification given by the doctor—miscarriage, abortion, and premature labor—is somewhat out of date. It seems to me it is quite sufficient to make two groups—abortion and premature labor, the two processes being really one, the only distinction being as to whether the child is viable or not. Dr. Holmes, I am glad to say, has spoken in defense of modern obstetric practice as opposed to the method of sharp curetting and douching, and

I would like to add to that, packing. When it is necessary to empty the uterus, it seems to me that it should be done after dilatation, with the finger, because there is a natural surface of cleavage, and usually there is a cleavage in all but one or two small areas, when one is called upon to empty the uterus; and with the least possible expenditure of time and energy on the part of the physician he can do so with the finger. I do not think any one can introduce a sharp curette into the uterus without producing hemorrhage. Dr. Small's results speak well for his surgical technic. I have emptied the uterus in some cases of this kind in the third and fourth months with practically no hemorrhage at the time of the operation. It was the practice in von Winkel's clinic, in Munich, to leave these patients and wait until the temperature went up, or until there was some direct indication for interference. In contrast with this practice, in Olshausen's clinic it is uniformly the custom to interfere where a patient has lost considerable blood. More time, however, is given to cases already in the hospital. In the treatment of these abortions the question is fairly well settled that we should not curette and should not douche and should not pack. But a question that comes up over and over again is, How much hemorrhage should we allow to take place before we proceed to empty the uterus? I find in many of my cases that hemorrhage stops after the women have had a certain amount of pain, and they go on for two or three weeks with a minimum amount of hemorrhage, with practically no elevation of temperature, or a temperature of say ninety-nine degrees, if left to themselves. The one question to me is, when to interfere or when to leave it to Nature?

Dr. Small (closing the discussion):—Until about a year ago I had supposed that the treatment which I have advocated to-night for incomplete abortion was the generally accepted treatment by the profession, at least among progressive men. About that time I attended a meeting of the South Side Branch of the Chicago Medical Society when a paper was read on the treatment of abortion, the author advocating practically the same treatment as that which has been advocated by Dr. Holmes to-night. In the discussion I advocated the treatment I have advocated to-night and was amazed at the opposition exhibited by nearly all who took part in the discussion against my plan of treatment: and among those who took part in the discussion were men whom I had considered leaders in the specialty of obstetrics. And I am amazed to-night at the remarks of Dr. Holmes. Twenty years ago I might have subscribed to his method of treatment, but I have learned something by experience since then. Because some men have made the egregious blunders he mentioned, leaving the whole placenta and even the baby in the uterus after curettement, is no argument against clean and thorough work; because his friend Watkins admittedly is not able to do a thorough curettage is no proof that others are not able to do clean and efficient work. I have curetted uteri and followed by hysterectomies and found that every part of the endometrium had been curetted, so that I know it can be done and done thoroughly. The evidence, too, of several hundred curettements after abortions, where the hemorrhage ceased at once; where the temperature dropped to normal promptly, if there had been any fever; and where nothing afterward passed away in any of them, should be satisfactory evidence, I should think, to any reasonable mind that a thorough curettement can be done. As to the remarks of another speaker that we are likely to have more hemorrhage after the use of the sharp curette, I must say that I have not seen hemorrhage follow thorough curettage after abortion: my experience is that as soon as the secundines are removed completely, the hemorrhage stops at once. Only last Friday night I was called to see a woman with very grave symptoms following an attempt at criminal abortion. She had a high fever; abdomen distended and so tender that she could not bear to be touched; vaginal examination almost impossible on account of the tenderness; nothing had come away except blood. She confessed that two days before she had introduced a sharp stick into the uterus. From her symptoms I suspected that she had perforated the uterus. Her symptoms were so grave that I refused to do anything until counsel was called to protect me in case of a fatal termination. She had had chills and fever and apparently peritonitis was commencing. Dr. Lyons was called and we had her removed to the hospital at

8 p. m., curetted the uterus with a sharp curette, and removed the contents, a six weeks' pregnancy. In this case I suspected that the uterus was soft and that the woman herself had punctured the uterus, hence, I was very careful in my manipulations. I dilated the cervix to the full extent of a Goodell-Ellinger dilator and tried a dull curette, but did not succeed in removing anything with it. I then tried to introduce my finger to see if I could find a puncture and to remove the contents, but the finger could not be introduced on account of the narrowness of the cervix, though it had been dilated to the full extent of the dilator. I then introduced the sharp curette and without trouble removed the contents of the uterus, and at 10 a. m. the next morning the temperature was normal and the patient doing well. Here was a case that I firmly believe would have died within three days without a curettage. What else could have been substituted with equal benefit in this case? Would my friend, Dr. Holmes, allow a case like this to die because some so-called authority derides curettage? This is the only logical treatment for such cases, and my experience has proven its reliability to my entire satisfaction.

DISCUSSION ON DR. PATRICK'S PAPER.

Dr. D'Orsay Hecht:—Because of the disappointment felt by patients and the dissatisfaction expressed in the past by physicians concerning the treatment of tri-facial neuralgia, every new method aimed to overcome this excruciatingly painful affliction should be received with undisguised pleasure. The clinical report just submitted by Dr. Patrick is such as to attract the attention of all who in their experience have dealt with the very refractory types of *tic douloureux*. I have not been as fortunate as the doctor in getting a survey of so large a clinical material, but, nevertheless, feel in a measure prepared from a perusal of the literature, cadaver work, and close observation of one case in private practice, to subscribe to all he has said of this treatment in his cases. I was first attracted to the method in question by the glowing reports of Baudoin and Levy, who suggest an external puncture (the one referred to this evening), and received additional incentive from a paper by Ostwalt, who advocates an internal or buccal route. The spirit of controversy has entered into the respective articles of these writers and I have sought by careful inquiry to frame my own conclusions. The method advised by Baudoin and Levy and demonstrated to-night by Dr. Patrick is obviously simple, although it contemplates a separate puncture for approaching each one of the cranial exits of the fifth nerve. Ostwalt contends, and with perfect right, that the foramina are by his procedure reached with one puncture, and concludes that this is a simpler, equally effective and more scientific measure than the one proposed by Baudoin and Levy. He has, however, been remiss in the description of his needle, and only in a desultory way does he suggest that he uses a bayonet-shaped needle. In my endeavor to follow out Ostwalt's technic I had a needle, the one I now show you, fashioned after my own notion, and find it adequate for the work. Ostwalt's method, briefly stated, is this: The needle is inserted behind the alveolus of last wisdom tooth and into the mucous membrane of the upper fornix of the vestibule. It is then pushed through the external pterygoid muscle or around its lower border and is made to rest on the external pterygoid plate. Its direction is upward on the plate until it comes in contact with the infra-temporal surface of the great wing of the sphenoid. The needle is now withdrawn a bit, deflected slightly to one side, and encountering softer tissue is known to be at the foramen ovale. When the nerve trunk at this point has been injected by retracing some of the ground and reaching the speno-maxillary fossa, the needle comes upon the foramen rotundum and the second branch is injected. Directing the needle to the post lower end of the sphenoidal fissure the ophthalmic division of the fifth nerve is reached. [These various steps in technic were demonstrated on the skull.] The bayonet portion of the needle is of such length that as it rests on the pterygoid plate, the tip is at the foramen and the bend is at the buccal mucosa. In other words, I know that if the bend just disappears the needle-tip must be at or near the foramen. In practicing on the cadaver the method is made difficult and trying because of the baggy masses of

tissue and the rigidity of the jaw. The needle may be operated more freely and perfectly in the clinical case. Many points remain to be emphasized, such as knowing when the injection properly infiltrates the nerve; how often they should be given. Suffice to say, that my result in one case is wholly in accord with that of Dr. Patrick's. A single puncture will seldom if ever cure and it requires anywhere from two to ten at intervals of one or two weeks apart to altogether suppress the pain. When those experienced in this work feel sufficiently encouraged to tell us that 90 per cent. of the tri-facial neuralgias will yield to this treatment, we should be prepared to give it a patient and fair trial.

Dr. Patrick (closing the discussion):—There are a good many points I would like to speak about, but I have already taken up too much time. A word or two as to the injections. They are not very painful. After I had made two or three injections one patient asked me whether she might not have nitrous oxide gas. I replied, Yes, but I do not think it is necessary. She, however, seemed to think it was, and accordingly she has had gas during the other injections. The administration of an anesthetic is in one way a drawback, in that the patient does not feel the peculiar tenderness and pain that are experienced when the needle touches the nerve, so that a non-anesthetized patient is a great assistance to the operator in making an injection. After two or three injections the process is almost devoid of pain, unless one strikes bone. Patients all know if the operator strikes the bone, as it is decidedly a disagreeable sensation, not to say painful; but otherwise the injections are not painful except for the puncture through the skin, and each one can judge for himself what that amount of pain would be by puncturing the skin with a needle which is rather large and has not a very sharp point.

CHICAGO PATHOLOGICAL AND CHICAGO MEDICAL SOCIETIES.

Joint meeting of the Chicago Pathological and Chicago Medical Societies, March 13, 1907, with the President of the Chicago Pathological Society, Prof. E. O. Jordan, in the chair. Prof. F. G. Novy of the University of Michigan, Ann Arbor, addressed the society on "Spirochetes and Relapsing Fever." The address was illustrated by numerous lantern slides. After some remarks by Dr. J. F. Hultgen, a vote of thanks was extended to Professor Novy for his interesting and instructive address.

THE CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY.

A regular meeting was held Dec. 11, 1906, with the President, Dr. Otto T. Freer, in the chair. Dr. Joseph C. Beck reported a case of cerebellar abscess. Dr. James T. Campbell reported (a) a case of malignant disease involving the left tonsil, base of tongue and epiglottitis, treated by trypsin injections. (b) Aphonia of unknown origin and of six months' duration in a two and a half year old child; discovery of an open safety-pin in the larynx. Dr. E. L. Kenyon presented a short report of a case entitled, "A Peculiar Imperfection of Speech Following, and Attributed to Diphtheria." Dr. Louis Ostrom, of Rock Island, reported a case of sinus thrombosis and necrosis of the horizontal semicircular and facial canals following chronic purulent otitis media; resection of the jugular vein; radical operation; recovery. He also presented the following instruments: Simple epiglottis retractor; method of extracting Bernay's sponge from the nose; localizer of superior oblique in the Killian operation; posterior submucous elevator; self-retaining nasal retractor; simple nasal and post-nasal packing.

POST-MORTEM FINDINGS OF A CEREBELLAR ABSCESS CAUSING SUDDEN DEATH.

JOSEPH C. BECK, M.D.

CHICAGO.

I only intend to occupy a brief period of your time in bringing this case before you this evening, because the program is so long and a full description is impossible at this time, owing to the fact that I do not wish to disturb the specimen until it is properly hardened. I present it as a fresh specimen, as we have not

many opportunities to see such, and, secondly, I wish to report the clinical side of the case, which was very interesting to me.

Jos. W., 19 years old, has had a running ear on the right side ever since childhood, following measles. The discharge was very thick and foul-smelling. He never treated for it, and it never bothered him until he got a cold, six weeks ago, when a dull ache developed on the right side of his head, which was constantly increasing until now.

Oct. 28, 1906: Pain almost unbearable. Dr. L. J. Hughes, my assistant, who saw him at this time, made the following notes of his findings: The external auditory canal is swollen and stenotic; foul-smelling pus fills the canal; granulations appear to take the place of the tympanic membrane, and the upper and posterior wall of the auditory canal seems to sag. The hearing is markedly reduced for air and also bone conduction. (Special mention is made that there are no symptoms of dizziness, noises, or nystagmus, or other eye findings in this case.) No tenderness over the mastoid, but some tenderness over the region of the zygoma on percussion. Temperature, 97°; pulse, 55-60; slight cough. Deviated septum to left and a general naso-pharyngitis. His general condition is below par, due to his loss of appetite and sleep.

I saw the boy on Oct. 30, 1906, and found the conditions as stated above; recommended immediate radical operation, believing there was a necrosis of the temporal bone through the tegmen tympani with involvement of the mastoid. I had also in mind to find a fistula going towards the cerebellum, inasmuch as he had a subnormal temperature and slow pulse.

Nov. 1, 1906: Patient was operated on, and I found a large colesteatoma, which I was able to eradicate completely, finding no evidence of necrosis of the tegmen tympani or any other part. I concluded the operation and put the patient to bed in good condition. Next his report said: "Rested well, temperature 99°, pulse 60." From that day until the evening before he died, which was nine days in all, he had no headache, and otherwise felt well. The wound was that we usually find in such cases. On the fifth day following operation there was a slight evidence of a facial paresis, which I attributed to the tight packing. The pulse and temperature remained all the time about the same; temperature, 97°; pulse, 50-60. On the evening of the eighth day after operation he complained of some headache which continued all night and the next day. I left him however, in the evening while he was eating a hearty meal. About 5 a. m. next day I was called up and notified that he gave a sudden shriek, got blue and died.

I posted as quickly as possible, in order to prevent postmortem changes, and found the field of operation in excellent condition, and no evidence of a fistula or necrosis. On removing the calvarium, I found normal meninges. In severing the tentorium cerebelli and turning out and back the brain, I discovered a small opening in the right half of the cerebellum, close to the median line, from which pus escaped, and on enlarging this opening we got about two tablespoonsful of this pus. Measuring the cavity, as you see, with this probe, it is about 2½ inches in one direction, and 1½ inches in the other. It appears to burrow towards the fourth ventro, but that I will determine better later, when the brain has been properly hardened. I would like to explain his sudden death by the rupture of this abscess into the fourth ventricle. The sinuses were absolutely normal. There were no evidences of any necrotic areas from the attic or mastoid cells anywhere. I chiseled open the semicircular canals and cochlea; also facial canal, and macroscopically found no evidences of disease.

I am inclined to think that the infection must have passed from the mastoid cells through some very small opening and infected the cerebellum. This abscess very likely has existed for a long time, in a quiet state, but the mastoid operation may have set up fresh activity and caused it to rupture.

DISCUSSION ON DR. BECK'S CASE.

Dr. George E. Shambaugh:—This interesting specimen which Dr. Beck has demonstrated brings before us in an impressive way one of the most serious results of chronic suppurative otitis media. This abscess is located in that part

of the cerebellum which comes in relation to the posterior surface of the pyramid of the temporal bone. This is the place where cerebellar abscess arising from suppurative ear disease is most often located. The duration of this abscess is uncertain from the clinical history. It is a surprising thing that an abscess as large as this could be located in a structure like the cerebellum without having produced very pronounced symptoms. Yet it is well known that brain abscess may occur in chronic suppurative ear disease and exist for a long period without causing any very pronounced symptoms. How the infection got to the cerebellum in this case is an interesting question. It is not unusual that no passage is discovered at the time of operation. There are of course a number of routes by which a cerebellar abscess is known to arise. One is by extension through the lateral sinus, this structure being first involved; another is by the way of the labyrinth, which is involved in the suppurative process and the extension occurs to the cerebellum either along the meatus internus or along the aqueductus cochlea or aquaeductus vestibuli. I would like to ask Dr. Beck whether any symptoms were noted in this case suggesting the possible involvement of the labyrinth.

TRYPsin TREATMENT OF A CASE OF MALIGNANT DISEASE, INVOLVING THE LEFT TONSIL, BASE OF TONGUE AND EPIGLOTTIS.

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Von Bergmann states¹ that cancer of the stomach stops abruptly and sharply at the pylorus, that the small intestine is but rarely the site of cancer and that cancer of the large intestine and rectum for the most part increases in frequency the further the distance from the duodenum. In 10,537 cancerous cases of the alimentary tract the stomach was involved 4,288 times, the small intestine 20, the large intestine 224, the rectum 1,204. Considering the natural and comparative immunity of the duodenum and small intestine, and the slow rate of growth of cancer of the large intestine, it would appear that the theoretical treatment of inoperable cancer by preparations of the pancreas, bile salts, intestinal gland extracts and ferments (alone or combined) is readily supported. Pancreatic extracts, according to Vernon,² contain two independent ferments, namely: pancreatic erepsin, which does not exist in the form of a soluble zymogen, and trypsin, which does. Of the peptone-splitting effected by pancreatic ferments the larger part is due to pancreatic erepsin, a ferment quite different from trypsin and from intestinal erepsin.

In November, 1905, through the solicitation of Dr. J. Beard,³ lecturer in comparative embryology in the University of Edinburgh, Dr. Wade began experiments to ascertain the action of trypsin upon the living cells of a carcinoma, such as Jensen's mouse tumor (an adenoma-carcinoma), to test the truth of the conclusion advanced by Beard in 1904⁴ that cancer was an irresponsible trophoblast, and to determine the length of treatment and number of trypsin injections necessary to destroy the tumor. Eight mice were selected with well-developed Jensen's mouse tumors. Two were treated with trypsin and the others were used as controls. On the tenth day, during which time four injections had been made, one mouse died, but postmortem revealed no cause of death. Upon microscopical examination all the cells of the tumor were in degeneration, fully half of them being represented by shapeless masses of particles which were probably the remains of nuclei; the rest were mere skeletons of cells. The somatic tissues of the mouse, as represented by the leucocytes and connective tissue stroma cells, were quite normal. The other trypsin mouse was given nine injections in 22 days and

1. A System of Practical Surgery, vol. iv, p. 372, 1904.

2. The Peptone-Splitting Ferments of the Pancreas and Intestine, etc., Journal of Physiology, 1904-'05.

3. The Action of Trypsin upon the Living Cells of Jensen's Mouse Tumor, British Medical Journal, Jan. 20, 1906, p. 140.

4. Lancet, June 21, 1902.

then was killed to make comparison with a control mouse which died of its tumor on that day. In the case of the control mouse the tumor was as large as the terminal phalanx of a man's thumb, but in that of the second trypsin mouse it was only the size of a lentil. Microscopically it was in advanced degeneration. It is certain that the action of trypsin upon cancer cells is to overcome the cancer albumin, which is a living substance, and thereby destroy the cancer ferment, malignin. In the cancer ferment, malignin, and in trypsin we have an antithesis of ferments, of which the latter is the more powerful.

Bashford⁵ compares the identity of the sporadic malignant new growths of the mouse, in all their anatomical features, with those of man, and the reproduction of the gross morbid anatomy of malignant disease, as met with in the human subject, with the artificially propagated cancer of the mouse. It seems reasonable to believe that if trypsin injection destroys cancer cells in mice it may be employed with equal success in human beings.

Shaw-Mackenzie⁶ says that repeated observations in cases of trypsin treatment have convinced him that shrinkage of the growth occurs simultaneously with relief of pain and unequivocal improvement in appetite, general nutrition and weight. In greatly advanced and hopeless cases it should be clearly understood that relief from pain is all that can be expected.

Beard⁷ advises giving injectio trypsin (Fairchild Bros. & Foster) in small amounts, well diluted, for a few preliminary injections. Then injectio trypsin daily up to two ampoules for three or four weeks. One ampoule on a certain day followed by an ampoule of injectio amylopsini on the next day, and so on alternately for another four weeks. Lastly, one or even two ampoules injectio amylopsini daily for about four weeks or longer, as the case may require. The injectio amylopsini is meant to follow the injectio trypsin in the latter period of the treatment and to meet, even from the start, any bad symptoms, such as nausea, vomiting, pain in the back, drowsiness, albuminuria, high arterial tension, edema, etc.

Should the trypsin injections still be not well borne, the quantity should be further diluted and given more frequently, the daily amount being thereby undiminished. It is easy enough to kill every cell of a cancer with injections of trypsin, but for its removal and to prevent the formation of poisonous products from its degeneration, injections of the diastatic ferment of the pancreas gland amylopsin are absolutely necessary. Dr. William J. Morton⁸ reports 29 far advanced, practically hopeless and inoperable cases, about half of which were subjected to x-ray treatment, although to trypsin injection he attributes the marked benefits derived. Two cases of face cancer were cured and in all the cases signs of amelioration in the progress of the disease were observed, with improvement in the general health. Hemorrhages ceased and pains were alleviated. It was noted that during the amylopsin treatment the patients expressed their feeling of greatest improvement.

Case Report.—Joseph Hand, hotel clerk, aged 56, of good family history, has had gonorrhea, but denies having had syphilis. On Sept. 1, 1905, the patient weighed 168 pounds, and about this time complained of pain over the left side of the face, which later became more manifest along the left lower jaw, in the ear, and from occiput to the vertex. As the pain was unrelieved he had five left lower and two back upper teeth extracted. He was treated at various hospitals and clinics until May 2, 1906, when I first saw him at the Postgraduate Hospital. At that time he could not protrude his tongue and swallowed with much difficulty the smallest amount of liquid, impulsively placing his hand as though to support the lower jaw. His speech was thick and indistinct, he had left facial paralysis, and complained of constant pain radiating over the face from the angle of the left jaw.

5. British Medical Journal, May 26, 1906, p. 1211.

6. British Medical Journal, Jan. 27, 1906.

7. Journal of the A. M. A., Aug. 11, 1906, p. 445.

8. Medical Record, Dec. 8, 1906.

Examination.—An indurated mass was found at the left side and base of the tongue the size of a filbert; an indurated, enlarged, firmly-fixed left tonsil; a much thickened epiglottis and ulceration in the glosso-epiglottic sulcus of the left side. The submaxillary gland of the corresponding side was large, hard and adherent. At my request he was examined by Dr. T. Melville Hardie, Dr. George Morgenthau and Dr. Frederick Besley, all of whom pronounced the disease malignant and the case inoperable.

General Treatment.—We prescribed large and increasing doses of potassium iodid. Ten weeks later he had a violent hemorrhage from the mouth, and was taken in an ambulance to the Cook County Hospital, where he remained more than five weeks. While there mercurial inunctions were administered daily for three weeks. He returned to us on July 2, and was under observation in the Postgraduate Hospital for three weeks. There large doses of potassium iodid were given, and the leucodescent lamp applied as a placebo; yet his condition gradually became worse. His weight was reduced to 115 pounds and he was taking about four grains of morphin daily to allay the pain. As the patient was failing rapidly and nothing better could be suggested we determined to try trypsin injections.

Trypsin Treatment.—Aug. 25, 1906, five minims of Fairchild Bros. & Foster injectio trypsin, 3 per cent. solution, diluted with ten minims of sterilized water, were injected under the skin over the enlarged gland, and August 28 ten minims were injected in the same region. August 31 and September 4 fifteen minims were injected, and we noticed that the swollen submaxillary gland, which had enlarged to the size of a hen's egg during the course of one night just prior to the beginning of trypsin injection, was very rapidly decreasing in size. He was swallowing more comfortably and feeling so much better that he celebrated his improvement by indulging in a ten days' spree. September 16 twenty minims (one ampoule) were injected, and since that time one ampoule of injectio trypsin diluted with two volumes of distilled water has been injected under the skin of the buttocks each alternate day. September 18 he weighed 123 pounds, and September 30 126 pounds, a gain of 3 pounds in 2 days, and he had taken but one-half grain of morphin in these two days. He drinks two quarts of milk daily in addition to a diet of eggs, oysters, beef, mutton, cereals, etc. At the present time his weight is 133½ pounds. He has little or no pain and is taking no opiate. His color is good, tongue fairly clean, the infiltrations in the tongue, tonsil, epiglottis and submaxillary region have greatly decreased. He says that he feels well and believes himself cured. For a week past injectio amylopsini has been given every alternate day.

Unfortunately, our early diagnosis was clinical only. Recently I removed sections from the tonsil and the laboratory diagnosis by Professor Zeit was pronounced "infective granulomata." As infective granulomata include tubercle, lupus, syphilis, glanders and farcy, leprosy and actinomycosis, without going into details I think we may exclude all except actinomycosis, syphilis and tubercle. He denies ever having had a chancre, he never had secondary manifestations of syphilis, the infiltrations never broke down, they maintained their stony hardness under persistent antisyphilitic treatment. Against tubercle, no tubercle bacilli nor giant cells were found in the microscopic section; he has not the characteristic pallor of mucous membrane found in tuberculosis. There is no pulmonary involvement. My belief is that the growths are carcinomatous; that what improvement has been brought about is entirely due to trypsin, and that the granular cells found by Professor Zeit are degenerated cancer cells.

In conclusion, I wish to express my indebtedness to Dr. Hugh A. Cuthbertson, to whose painstaking efforts this patient's improvement is due.

DISCUSSION ON DR. CAMPBELL'S PAPER.

Dr. Otto T. Freer:—We are greatly indebted to Dr. Campbell for reminding us of the possible usefulness of trypsin in the treatment of malignant tumors. Nevertheless, the absence of a histologic diagnosis in the case he presents to us deprives it, to my mind, of any claim to represent the effect of the remedy upon

carcinoma, for there are so many conditions in the throat that to the naked eye may simulate a malignant epithelial neoplasm, not to speak of the possibility of sarcoma, that the diagnosis from chronic inflammatory round-celled infiltration of the arcus palatoglossus or palatopharyngeus surrounding the tonsil, or the specific granulation tumors, may be impossible by mere inspection, so that, while one may feel reasonably sure of the presence of a beginning carcinoma, to convince others it is necessary to have the sustaining evidence of the microscope. I suggest that Dr. Campbell follow up the subject and excise tissue for a histologic diagnosis in future cases before he uses the trypsin. It does not, however, seem to me that much will be accomplished with the remedy, for while central parts of a malignant growth of low vitality whose nutrition is impaired because of occlusion of vessels may be digested by the ferment, the vigorous malignant epithelial cells at its periphery will offer at least as much resistance to the solvent action of trypsin as the cells of the normal tissue embedding them.

Dr. Joseph C. Beck:—I would like to know the occupation of the patient, whether he ever worked with hides or cattle.

Dr. Campbell:—He was a clerk and brassworker.

Dr. Beck:—Then I would like to ask the doctor if the tissues were examined microscopically for the ray fungus?

Dr. Campbell:—Yes, and not found.

Dr. Beck:—I only wish to say that actinomycosis can not be otherwise excluded. Patients who have such bad teeth as this patient has and had may easily get infected with the actinomycetes. Besides, this growth is firmly connected with the lower jaw. That the patient got so much better under the treatment and is still improving may also speak in general against carcinoma, because in the few cases that I know of where trypsin, nucleinic acid, methyl blue and several other similar substances have been found to benefit the patient, the effect of these drugs soon passed off, and if the condition was cancer it rapidly grew and destroyed the life of the patient.

Dr. George E. Shambaugh:—The first case reported by Dr. Campbell is a most interesting one. The probable diagnosis of carcinoma in the absence of the histological findings has been in this case substantiated as nearly as could be possible from the clinical history. The manner in which the improvement followed the administration of the treatment seems to me to justify the assumption that the improvement was most probably the direct result of this treatment.

Dr. Campbell (closing):—In reply to Dr. Beck, there is reasonable proof that there is no possibility of the disease being actinomycosis in the fact that there has been no tendency toward breaking down of the tumors into abscesses. Also, that in careful microscopical examinations made by Professor Zeit no ray fungi were found. For lumpy-jawed cattle large doses of potassium iodid have been given with success, and similar treatment should prove beneficial when used for human beings who suffer with actinomycosis. In the case presented, however, very large doses of the iodid were given without success and he gradually became worse.

In reply to Dr. Ballenger it is not a fact that 28 per cent. of mice suffering from Jensen's mouse tumor recover. They all die! When superficial ulceration of the tumor occurs emaciation rapidly ensues. Ehrlich claimed that 30 or rarely 40 per cent. of mice were successfully inoculated with Jensen's mouse-tumor. Bashford, however, repeatedly obtained success with 90 per cent.

Dr. Elmer L. Kenyon presented a young woman with "A Peculiar Defect of Speech, Following and Partially Attributed to Diphtheria." The defect consisted of a marked rough nasal gurgling sound in place of the normal s and z sounds. The probable etiology and the treatment were covered fully. A complete report will be published later.

DISCUSSION ON DR. KENYON'S PAPER.

Dr. Otto T. Freer:—The society owes Dr. Kenyon gratitude for this able and clear presentation of a new subject. So much that appears on programs is a monotonous repetition of what has gone before that it is refreshing to find a new theme so ably handled.

SINUS THROMBOSIS AND NECROSIS OF THE HORIZONTAL SEMICIRCULAR AND FACIAL CANALS, FOLLOWING CHRONIC PURULENT OTITIS MEDIA; CHOLESTEATOMA; PERISINUS ABSCESS; RESECTION OF THE JUGULAR VEIN; RADICAL OPERATION; RECOVERY.

LOUIS OSTROM, M.D.

ROCK ISLAND, ILL.

Miss Gertrude Steelman, aged 22, seamstress. Family history negative. At 6 years of age had diphtheria, accompanied by double O. M. P. A., which became O. M. P. C. At no time during the last sixteen years has patient had earache, and only slight discomfort from a slight discharge. Hearing has at no time been good, in fact preventing her from pursuing studies enabling her to teach school, which was her original intention. For three or four weeks before I saw her she suffered from constant headache, occasional vertigo, with nausea and vomiting, loss of appetite, extreme weakness and mental stupor, from which she could with difficulty be aroused, and into which she at once lapsed.

On June 5, 1906, Dr. Eli Bradford, her physician, asked me to see her, when I found her in the following condition: Complains of great headache and tenderness on pressure in front of right ear over the zygomatic roots, in the temple, and between the angle of the jaw and mastoid process (probably at beginning of jugular vein or bulb). There was no tenderness over any portion of the mastoid process or jugular vein. The meatus was filled with foul smelling pus, and half filled with granulations and cholesteatomatous flakes, which microscope showed to be cholesterol crystals, and mixed infection. Vertigo at this time almost constant. With eyes open, was clockwise or from left to right, and with eyes closed, anti-clockwise, or from right to left; that is, the sensation was that of spinning around. The vertigo was less when lying on the left side and very much worse when lying on the right side, when pain, nausea and vomiting was also aggravated.

On the next day the granulation tissue in the meatus was snared off, and the tympanic cavity curetted under nitrous oxid gas, removing a good deal of granulation tissue and cholesteatoma, after which she felt very much better; headache almost gone; no vertigo, nausea or vomiting, though there was a slight tendency to vertigo when lying on the right side. Weak bichlorid solution wash and iodoform alcohol drops ordered to be used every three hours. During the next week she was quite comfortable, the only disagreeable feature being the tendency to vertigo when lying on the right side.

On June 13 she complained of pain "way-in" in the right ear. No tenderness on pressure, vertigo increasing, with nausea and vomiting and return of headache. In the evening she had a chill, followed by temperature 105.4, pulse 120, respiration 26, and a profuse sweat. The same occurred twelve hours later, with facial paralysis of right side. Pulse at noon 120, temperature 99.5. Sent to St. Anthony's Hospital for immediate operation.

June 14 patient anesthetized. Temperature at time of operation, 104.4; pulse, 140; respiration, 28. Usual incision back of right auricle, and with gauge and hammer went through $\frac{1}{8}$ inch cortex, and met necrotic bone, pus, granulations and cholesteatoma, the upper one-half inch of sigmoid sinus covered with granulations and pus (perisinus abscess). It looked suspicious, but filled readily on pressure above and below, respectively. It had an appearance between the normal pearly blue color and the lusterless pearly color. The sigmoid sinus was less than one-eighth inch behind the posterior wall of the bony meatus. The antrum was small and covered externally by the sigmoid sinus and filled with granulations and cholesteatoma. By reason of the anatomical relations caused by the far forward sigmoid sinus and small antrum the radical (Swartz-Stacke) operation was made in order to clean out the tympanic cavity. When it had been thoroughly curetted free from all granulations and necrotic bone, the horizontal semicircular canal was found necrotic, with loss of all the ridge or prominence which is usually such a prominent landmark in this operation. The loss of substance exposed the two arms or tubes about $\frac{3}{16}$ of an inch apart, into each

of which a probe could easily be passed and from which pus was oozing. The membranous canal was also destroyed. Just below it the facial nerve was exposed by necrosis of its bony covering along its entire horizontal course, and one-eighth inch below the knee or bend, along its vertical course as far down as just below the pyramid for the stapedius muscle, that is, about three-eighths of an inch in all of the facial nerve exposed, and a part lying free from its canal. Both the semicircular and facial canals were, of course, very carefully curetted free from all carious bone and granulations and wiped dry with cotton swabs. The mouth of the Eustachian tube and the tympanic ring thoroughly curetted with the purpose of obliteration. All that was found of the ossicles was the head of the malleus. A T-shaped incision was made in the membranous canal, and the flaps sutured above and below, respectively. The wound was closed by sutures, all the dressings and drainage being carried on through the external meatus. When patient regained consciousness there was no facial paralysis, she could open and close right eye as well as left, and facial movements were symmetrical. The pathological report of mastoid contents was mixed infection and cholesterol crystals. Blood count showed 82 per cent. of polynuclear leucocytes.

June 15.—Temperature at 8 a. m., 99 degrees. At 1 p. m. had a chill, lasting about twenty minutes, with temperature 105.8, pulse 144, respiration 28, followed by a profuse sweat, so by exclusion made diagnosis of sinus thrombosis, and decided to operate the next morning.

June 16.—Operation. Before exposing the mastoid operative field, an incision was made along the anterior border of the sterno-mastoid from the mastoid process to one-half inch from clavicle. The jugular vein duly exposed and separated from the vagus and the carotid artery. The facial (which was almost as large as jugular) and other tributary veins cut between double ligatures, and the jugular vein removed between double plain catgut ligatures from near the exit from the skull to near the clavicle. An iodoform gauze cigarette roll placed in wound for drainage. The wound closed by continuous sutures, except lower one inch through which the gauze roll protruded. Dry iodoform dressing applied to neck. The mastoid wound was then exposed, sutures and dressings removed. The mastoid cavity was free from pus, all looked well, and the meatal flaps adherent, and looked healthy. The openings into the horizontal semicircular canal open and free from pus. The facial nerve healthy and its canal clean. Whiting's posterior incision was made, fully exposing the sigmoid and lateral sinus region. The sigmoid sinus looked thickened and pearly, but lusterless. The knee and one inch of the lateral sinus and the sigmoid sinus downward to near the jugular bulb bared of bone, exposing healthy dura. When the sinus was incised there was free bleeding from the torcular, but none from the bulb, even after curetting into the bulb as far as curette would reach. The two ends of the opened exposed sinus packed with iodoform rolls, and after cutting away the infected free sinus walls the brain area was dressed separate from the mastoid or tympanic cavity, being careful to so arrange the dressings that there should be no infection from one to the other. The posterior (Whiting's) incision was closed with sutures, also the upper portion of the original incision. Dry iodoform dressings applied, with bandage including head and neck. Only once during the operation was the respiration embarrassed, but by dilation of the rectal sphincter respiration was re-established with no further trouble.

The facial paralysis was absolute for about two weeks, at which time the eyelids could be moved a trifle. The movements of the facial muscles was fairly well established about three months after the operation. Now, six months later, there is no facial paralysis whatever. When all was healed, a sinus as large as the body of an ordinary lead pencil existed behind the ear, communicating with the tympanic cavity. On November 9 a plastic operation was made for its closure. The upper and lower margin was freely split, and the skin along the entire length of the sinus undermined very freely, trimmed and sutured for primary healing, with the result that now there is no noticeable deformity, and the scars barely visible, being hidden by the auricle and the patient's hair. The ear has been absolutely dry since first healing.

Repeated careful tests have been made to determine the amount of hearing in the right ear after recovery.

Watch.	Right open.	Right closed.
Acumeter.	Right 8 in.	Right 4 in.
Whisper.	Right 3 in.	Right 0 in.
Voice.	Right 18 in.	Right 9 in.

The left ear was closed during test.

The high tones, 2 (Galton whistle).

Low tones: right, 512; left, 128.

Bone conduction tests not considered reliable.

Résumé: 1. Absence of mastoid symptoms. 2. Alternating vertigo. 3. Great exposure of facial nerve. 4. Destruction of bony and membranous semicircular canal. 5. Great number of complications (cholesteatoma, perisinus abscess, necrosis of horizontal semicircular canal and facial canal, sinus thrombosis and facial paralysis). 6. Early and complete recovery of facial paralysis. 7. Retention of useful hearing. 8. Far forward sinus. 9. Recovery with a dry ear and no deformity.

SIMPLE EPIGLOTTIS RETRACTOR.

In operating on the anterior portion of the vocal cords, or adjacent parts, the anatomical structures at times interfere with exact manipulations. This is especially true as regards the epiglottis, which sometimes is very troublesome by overhanging the glottis and obstructing a perfect view in the laryngoscope. In a few cases a clear view of the anterior end of the vocal cords can not be obtained by any method, unless the epiglottis is held forward by some form of probe, even though we have a very tolerant patient to laryngeal manipulations and in spite of pulling forward of the tongue and placing head and neck in the most favorable position. In such cases, which, of course, are rare, one needs another hand in order to do accurate work. A very simple contrivance will do away with the difficulty and in no way interfere with any manipulation. An ordinary small rubber band fastened by a slip knot by both ends to the laryngeal instrument so that the ends are on both sides of the angle. The action of the rubber band can be modified by using a short or a long one, thick or thin, and by using a slip knot each end can be moved to any desirable location to vary the retracting action. It does not in any way interfere with the movement of any form of forceps, currettes or applicators, nor does it slip if properly attached.

METHOD OF EXTRACTING BERNAYS' SPONGE FROM THE NOSE.

About the only objection against the compressed cotton (Bernays) nasal sponges is the difficulty in removing them from any part of the nasal cavity excepting the anterior portion. If the nasal tissues have swollen, as is usually the case, it is not easy to see the packing, and the tissues are tender and sore, so that it is quite painful to remove it, and portions may be left in the nose and produce subsequent trouble. Personally I now use these sponges in nearly all my intranasal operations, submucous resection of septum, middle or inferior turbinectomies, spurs, etc., and find that after-treatment is reduced to a minimum with less liability to infection than when I used gauze. By running a strong thread through one end of the sponge it can be placed anywhere in the nose, and as many as one likes, and, no matter how much the tissues swell up, all that is necessary is to catch hold of the knot and pull out the whole packing with the least amount of pain or injury. The sponge may be covered with rubber tissue, paraffin, or any other material if it is so desired, to protect the nasal mucosa.

LOCALIZER OF SUPERIOR OBLIQUE IN THE KILLIAN OPERATION.

I have seen four cases where diplopia was constant after the Killian operation (performed by some of the best European rhinologists) where the entire floor of the frontal sinus had been removed. I have also seen very many where there was no diplopia after the operation. As long as there is any danger of diplopia after this very useful operation, when the pulley of the superior oblique is separated from its bony attachment, any method by which the pulley is made more safe

is worth adoption. With this little instrument the exact location of the pulley can be found, and with no loss of time. The pulley can easily be felt by the index finger, and the ring of the localizer is then pushed in over it so that the pulley is left inside of the ring. The needle or finder is then brought over the edge of the frontal bony wall and falls on the floor of the frontal sinus exactly in the center of the ring or over the attachment of the pulley. A mark can then be made and this portion of the bone saved. The instrument can be quickly adjusted to suit any case.

POSTERIOR SUBMUCOUS ELEVATOR.

In an experience of over one hundred and thirty (130) submucous resections of the septum, I have found this instrument almost invaluable. Elevation of the mucous membrane of the septum is usually very easy with Freer's elevators, but I have rather often punched hole in one side of the mucous membrane in going around corners and angles, when pushing backward. I have seen many other surgeons do the same thing. I feel safer pulling than pushing, especially over the maxillary crest, so when I have elevated all the mucous membrane that separates easily with Freer's dull elevator I use this right angle elevator almost exclusively, and find that I can do faster and safer work than ever before, and that there is much less laceration or traumatism, especially at the anterior end of the crest, where the toughest adhesions are usually found. Also at points where previous cautery or sawing operations have formed firm adhesions, it is very helpful in elevating from behind as well as from in front. It is an ordinary dental burnisher bent at right angles, which can be further modified into an acute or obtuse angle.

SELF-RETAINING NASAL RETRACTOR.

The self-retaining retractor shown herewith is universal in its movements and is more easily managed than an assistant. The head band should be wide so that it can be applied firmly to the patient's head. The arms and blades are pliable so that any incision can be obtained with one or both blades independent of each other. By bending the blades they can be used as a simple speculum or deeper as retractors. No matter how the patient moves, the blades are always in the same position and easily bent away so as not to be in the way if not needed. It does away with the disagreeable shifts produced at times when the assistant changes position or moves his body. It combines all the features of the different specula, with the additional substitution for the retracting assistant, giving us more room about the patient.

SIMPLE NASAL AND POSTNASAL PACKING.

Severe hemorrhage from the nose or postnasal space is not uncommon. Packing the postnasal space is easy if you have a tractable patient by using Bellocque's canula, or soft rubber catheter, but even then the gauze pad is not always easily adjusted, and it takes time and some apparatus, and bleeding interferes with accurate work. In packing through the nostrils it is still easier if the bleeding is not in the postnasal space, but the great difficulty is that if gauze strips or anything else of the kind is used it is very apt to fall down into the pharynx during gagging or hawking and defeat its purpose. Furthermore, it can not be packed very firm. Compressed cotton sponges (Bernays) are not suitable for postnasal packing. In some cases of severe postnasal hemorrhage, one of them a hemophalic, all manner of packing had been used, with no avail, until I used the method to be described, which is so simple that it can always be used if we can get a string and pieces of cloth. It may also be used in any blind cavity. By tying one end of a string, preferably strong black silk, to one end of a gauze strip, and taking long stitches (basting or draw string) through the gauze or strips, the gauze, with knot attached, is packed through the nostril into the nose or postnasal space, and the string pulled on at times to pack from behind until enough has been accomplished. The gauze may be treated with any kind of medication. If it is desired to pack the entire nasal cavity from postnasal space forward, several such basted strips of any desired length or width can be used and

can be packed as firmly behind by pulling on the basting string as by packing from in front, with no inconvenience on account of any hemorrhage that may be present. The packing is easily and quickly removed by simply pulling out the gauze and letting the string slip through it and, if necessary, it only takes a moment to repack the nasal cavity.

DISCUSSION OF DR. OSTROM'S PAPER.

Dr. Joseph C. Beck:—I wish to compliment the doctor on the many practical devices he has shown us to-night; particularly this instrument to localize the pulley of the superior oblique. When I operate next by the Killian method I want to have one of these instruments at hand. I cannot agree with the previous speaker that the removal of the pulley is of no consequence. I know it is productive of a squint and diplopia, which is present in most of the cases that I have seen, and, if possible, is to be avoided. However, at this point I wish to say that in my last case of radicle sinus operation for pan-sinusitis, I followed the advice of Coakley and many others in not removing the floor of the frontal sinus over the orbital cavity, only so much of the floor and back into the ethmoid cells as to get perfect drainage, and had a good result without any chance for infectious cellulitis or displacement of the eyeball. Again, in regard to the allusion of the previous speaker that I did not say much about the nystagmus in my case of cerebellar tumor, I wish to plead guilty that I did not care more to open mastoid as quickly as possible, in order that I might save his life, rather than scientifically examine the case. Next time I promise to do better. As to post-nasal packing, I use the Bellox canula and cotton tampon, and cannot report anything but success with it, when called upon to use it.

Dr. George E. Shambaugh:—There are several points I would like to refer to in the interesting case reported by Dr. Ostrom. In the first place I am not convinced that the patient was able to hear in the affected ear after his recovery from the operation. That the labyrinth may be invaded by a suppurative process and there still be preserved the ability to hear, is a phenomenon we sometimes see in cases, for example, of cerebrospinal meningitis which extend along the meatus internus to the cochlea and where after recovery there are sometimes left more or less extensive islands of hearing. Whether it is possible for any hearing to be present where a gross lesion exists such as is reported in this case where a fistula existed in the labyrinth from which pus was seen to exude, is quite a different matter. The extreme difficulty in excluding the well ear in testing the hearing in cases of one-sided deafness, especially where it is a question whether or not there is a total defect in the one ear, leaves in my mind a margin of doubt whether this case could hear in the affected ear. There is just one point in the handling of the case I would criticize; that is the primary closure of the opening back of the ear. Such a closure is of great assistance in the after-treatment of many cases where the radicle operation has been performed, but such a closure is not suitable for all cases operated on by the radicle method. In this particular case there were two contraindications to this primary closure, either one of which should have been sufficient cause for leaving the wound open. One was the presence of a cholesteatoma and the other was the fact that the sinus was exposed over a considerable area and its surface was bathed with pus which left the possibility of a sinus involvement still present.

Dr. H. Kahn:—This evening, in two instances, that of the demonstration of the cerebellar abscess and the paper now under discussion, the presence or absence of nystagmus has been omitted. The present state of otology recognizes this symptom as of great value in the diagnosis of suppurative affections of the static portion of the labyrinth, and of some use, especially in the differential diagnosis of cerebellar abscess. This has been brought out by Barany, in an exhaustive paper in the *Monatschrift für Ohrenheilkunde*, by Neuman in the *Archiv. für Ohrenheilkunde*, and Friedreich in his monograph on Labyrinthitis. All of the before-mentioned authors agree that in diseases of the static apparatus, when the eyes are rotated upward and outward to the opposite side, a rotary nystagmus appears, which is extinguished when the eyes are turned toward the affected ear.

Cerebellar abscess produces exactly the opposite phenomena, i. e., nystagmus, when the eyes are rotated to the affected side, and none when turned to the opposite side. The point emphasized that the patient hears after destruction of a part of the labyrinth is, of course, open to doubt, and I am of the opinion that the doctor has deceived himself, since it is well-known that it is difficult to prove a one-sided deafness when the other ear is normal. The instrument shown for the localization of the superior oblique muscle when doing the Killian operation on the frontal sinus may be very valuable, if the typical operation is performed, but the modification proposed by Hajek in a recent number of Fraenkel's Archives makes it unnecessary. Following this modification there is a diplopia for a short time, but this soon disappears, and the patient is no worse for having had his superior obliques detached.

Dr. Otto T. Freer:—I wish to especially commend Dr. Ostrom's very ingenious use of the rubber band to uplift and pull forward the epiglottis during endolaryngeal manipulations. I have found in a number of cases great difficulty in removing papillomata growing on the anterior third of the cords where the epiglottis overhung the larynx in a decided manner, and I think that Dr. Ostrom's device will be of great use in such cases.

CHICAGO SURGICAL SOCIETY.

Meeting January 11, 1907.

A clinical meeting was held at the Cook County Hospital, Jan. 11, 1907, with the President, Dr. D. W. Graham, in the chair.

Dr. Jacob Frank presented two cases showing Dollinger's method of extirpating the glands of the neck. Dr. Frank also reported a case of an old ununited intracapsular fracture of the neck of the femur, which he treated without nailing or wiring, with subsequent excision.

Dr. Thomas A. Davis showed a case of gunshot wound of the spinal column. He exhibited a man upon whom he did a modified Kraske operation, resecting the rectum after doing a colostomy. He showed a woman, seven months pregnant, who received a gunshot wound of the thorax. The bullet entered the sternum in the second intercostal space, and to the left of the median line. It passed through the thorax and ranged downward and lodged against the diaphragm. The temperature was normal for a few days, and then rose. The pleural cavity was found to contain offensive pus, and gas escaped. Drainage was established, and the temperature became normal. She aborted on the fifth day and is now in good condition.

Dr. B. Brindley Eads exhibited two cases, one of rupture of the spleen, upon which he had operated successfully, and the other of exstrophy of the bladder, in a child five years of age.

Dr. William E. Schroeder exhibited a case of fracture of the second and third lumbar vertebrae. He also showed a case of a patient who sustained a fracture of the patella twenty-three years ago, and now has enormous exostoses developing from the periphery of the cartilaginous portion of the femur, which can be accounted for only by the fact that the patient had an irritation of the ends of the patella and an exposure of the synovial surface. The joint was full of fluid and had to be aspirated. Microscopic examination was negative. He showed a patient upon whom he operated for a sarcoma of the back about two years ago. Two months ago the tumor returned and had now reached an enormous size. The tumor was of the small round-cell variety.

Dr. A. E. Halstead exhibited a case of hypernephroma in which the initial symptom was a pathological fracture of the left femur. He showed a patient with a large fascial sarcoma of the left thigh. He exhibited two cases of tabetic joint disease; also a case of arthritis deformans of the polyarticular recurrent type in a male, aged 46. He likewise showed a case of Hodgkin's disease and spoke of the differentiation between that disease, lymphosarcoma, and tuberculous adenitis.

Dr. C. E. Humiston exhibited a boy, nine years old, who fell, striking his knee, but not producing any abrasion of the skin. Three days later there was

pain in the knee, some swelling and tenderness. The swelling extended down over the anterior surface of the tibia, almost to the ankle. Temperature was increased, and both pulse rate and respiration were accelerated. An incision was made over the tibia, but no pus was found. The following day another incision was made extending from the insertion of the patellar tendon down to the lower third of the tibia. The medulla of the tibia was necrotic. This was scraped out, going as close to the joint as possible without opening it. He was better for three days, and then gradually grew worse. At the end of four days a pyemic abscess was opened over the other knee. The joint was distended and aspiration showed pus. The joint was drained according to the Fenger method. The patient improved a little, and then a gravitation abscess had to be opened on the posterior surface of the thigh. Although patient's general condition is better, he is still in a state of sepsis.

Dr. D. N. Eisendrath exhibited a patient who had three epigastric hernias and one femoral hernia. He showed a case of retrocecal appendicitis; also one of intussusception in a little girl. He exhibited a patient with sarcoma of the humerus following an injury. He also showed cases of ununited fracture of the humerus, ascites, and venous angioma.

Dr. M. L. Harris exhibited a man who a year ago sustained a comminuted depressed fracture of the skull. He likewise presented a man who had for thirteen years what was diagnosed as a left inguinal hernia. A small portion of the tumor could be slipped back and forth through the external ring, thus simulating a hernia. The major portion of the tumor, which was about 2 by 15 by 10 cm. in size, occupied the left inguinal region, and extended deep into the pelvis. It was a properitoneal lipoma, and the peritoneum was carried backward and inward.

Regular Meeting, Feb. 1, 1907.

A regular meeting was held Feb. 1, 1907, with the President, Dr. D. W. Graham, in the chair.

MULTIPLE EXOSTOSIS.

Dr. Edward H. Ochsner reported two cases of multiple exostosis, one of which had an exostosis the size of a filbert, springing from the anterior surface of the right lamina of the second cervical vertebra, and making pressure on the cord. He also reported one case of severe acute varioli formis of the face, arms and neck, which had greatly improved by the use of a vaccine made from the bacilli and cocci found in the pustules, according to the directions laid down by Wright.

Dr. Thor. Rothstein spoke of the symptoms the man with exostosis showed before he was operated on.

RUPTURE OF THE URINARY BLADDER.

Dr. Frederick A. Besley read a paper on the subject of rupture of the urinary bladder, in which he reported 23 cases and detailed some experiments.

DISCUSSION.

Dr. D. N. Eisendrath said his experience is limited to two cases, one of which Dr. Besley had reported. There is one point in connection with that case, a child three years of age, which, he believes, substantiates a theory advanced as to the mechanism of rupture of the urinary bladder. The mechanism of rupture of the urinary bladder in children has been but little referred to in the literature. The child of three was brought into the hospital one week after the injury with an infiltration extending from the median line back to about the level of the axilla, and from the pubes to the costal arch. A diagnosis of retroperitoneal rupture by exclusion was made, as he thought there could be no other possibility of any subcutaneous infection having arisen after a fall of this kind. He did a laparotomy and found an extraperitoneal tear, but one which did not go through the mucous coat, so that there was a slow onset of symptoms, which could be explained by the mechanism of the rupture, that is, undoubtedly the muscular coat must have torn first and left the mucous coat intact. He doubted whether this could be the case until he had recalled reporting a similar experience. Dr. Eisendrath

made some further remarks on fractures of the pelvis complicated by rupture of the urinary bladder.

Dr. L. L. McArthur said the essayist stated that between seventeen and eighteen pounds was required to rupture a bladder. That might lead to error if the statement was not made more clearly and specifically. He asked him if he meant pounds to the square inch or not? A column of water, six feet high, by gravity, makes a pressure of 2.4 pounds to the square inch approximately. It has been his peculiar fortune to see a bladder rupture while the irrigator with which the bladder was being distended was held up at arm's length on one of the stands that will hold the irrigator probably at a height of about six feet. It was during an operation that Dr. Danforth of this city was making, and he was assisting. The bladder, on being exposed by suprapubic incision, was found so low as not to be reached readily. Desiring to raise the fundus of the bladder, the bladder was distended by sterile water. While waiting for the fundus of the bladder to come up into the wound, there was a sudden spurt of water; he stuck his finger down and checked the stream until the irrigator could be lowered, when it was found that a rupture of the bladder had occurred just at the point desired to be opened, so that without any difficulty his finger went into the bladder through the perforation. He mentioned a Vienna surgeon who succeeded in rupturing the bladder with twelve ounces of urine.

Dr. Bayard Holmes has operated upon four cases of rupture of the urinary bladder and only one lived.

Dr. John E. Owens recalled a case of rupture of the urinary bladder from a fracture of the pelvis. The rupture was extraperitoneal in an otherwise healthy man. Cases of rupture of the urinary bladder are, in his judgment, rare. He has seen many cases of fracture of the pelvis, but this was the only case of rupture of the bladder he has seen.

Dr. Besley, in closing the discussion, said there is a difference of opinion as to which coat is torn first in a rupture of the urinary bladder, whether the mucous or serous coat. He found in watching tears occur experimentally, as he did in cadavers, it was not always the same coat which was torn first. The relation was changeable. Occasionally, the mucous coat would give way first, then the muscular, then the serous coat. In some cases the order would be the serous coat, the muscular, and then the mucous coat.

As to the point brought out by Dr. McArthur concerning the amount of pressure necessary to rupture the bladder, he would say that the measuring apparatus used was the ordinary steam gauge, which measures pounds to the square inch, and it was on this basis the estimations were made.

Dr. Bayard Holmes reported three cases: syphilitic tumor of the testicle, syphilis of the liver, and tumor of the colon.

Dr. L. L. McArthur reported a case of adenocarcinoma of the uterus in which he did a hysterectomy, the patient making a nice recovery. He also presented a specimen of osteosarcoma of the lower extremity of the femur.

In the discussion, Dr. Carl Wagner reported a case of osteosarcoma similar in many respects to the one narrated by Dr. McArthur. Amputation at the hip joint was done; the man recovered from the operation and was well to-day.

Dr. A. J. Ochsner reported a case of sarcoma which involved the lower end of the femur.

CHICAGO OPHTHALMOLOGICAL SOCIETY.

Meeting of Feb. 12, 1906.

DR. F. C. HOTZ, President.

ANTIPARTUM PURULENT CONJUNCTIVITIS.

Dr. Willis O. Nance reported a case observed within the first twenty-four hours of life. Even at birth the eyes were swollen and red and a drop or two of yellow matter oozed from the left eye on opening of the lids. One day later the eyes presented the clinical appearance of a well-defined purulent conjunctivitis of several days' duration; the upper lids were so swollen as to render eversion extremely difficult; the palpebral conjunctiva were velvety and presented deep fur-

rows; the eyes were bathed in creamy pus and the left cornea was slightly hazy. The discharge showed gonococci in abundance. The disease ran a favorable but protracted course of seven weeks. The mother was a primipara, aged 22; labor had been brief and easy, the membranes having ruptured one and one-half hours before birth. The infant weighed eight pounds and was decidedly cyanotic.

Dr. Nance is of the opinion that the gonococci were introduced directly through the unruptured membranes of the amnion, and that the ophthalmia was immediately due to an endometritis of the same nature.

A HYSTERICAL GIRL WHO PLACED BROKEN PIECES OF GLASS IN HER EYE.

Dr. C. W. Heath reported the case of a 16-year-old girl who secretly placed in all some 40 pieces of glass in her conjunctival sac on various occasions in order to arouse the sympathy of the attendants in the institution in which she was detained. No injury of the cornea resulted, although some of the fragments must have remained in the eye over night. All the stigmata of hysteria were found.

OPTIC NEURITIS CLOSELY ASSOCIATED WITH A LESION OF THE SINUSES.

Dr. G. F. Suker:—When first seen, the patient was suffering from a bilateral optic neuritis with beginning atrophy on one side; a month later the vision suddenly fell to 0.1 in each eye, despite very energetic strychnin and mercurial treatment. An examination then revealed some congestion of the nasal mucosa and some interference with the sinuses. Curettage of the ethmoidal sinus revealed pus and necrotic tissue; vision immediately improved and is now 0.6 and 1.0, respectively.

Dr. H. M. Fish had seen the case with Dr. Suker. Dr. Fish emphasized the fact that negative nasal findings are inconclusive, since cases have been reported in which only congestion of the nasal mucosa was present a few hours before death, but in which the sinuses were found filled with pus postmortem.

Dr. F. E. Brawley has seen the vision improve from 0.50 to 0.66 within a half-hour in a case of slight neuroretinitis associated with a mucous discharge from the nose. Normal vision was restored under treatment.

Dr. J. E. Colburn has seen marked lowering of vision result from operation upon the turbinal bodies, in one case from normal to 0.1 over night, with subsequent return to normal.

Dr. F. A. Phillips had seen a marked disturbance of vision, blurring of the disc and general hyperemia of the fundus accompany acute sinusitis due to influenza. The eye condition subsided on the improvement of the sinusitis, but recurred when it again appeared. Dr. Phillips believes the retinal affection to be due to a disturbance of the chorioretinal circulation.

Dr. J. F. Burkholder cited a case of complete and permanent blindness in one eye due to a turbinectomy, which was followed by severe hemorrhage and a three days' loss of consciousness.

Dr. F. C. Hotz added a case of thrombosis of a central vein and retinal hemorrhage with permanent loss of the upper half of the field of vision due to exceptionally profuse hemorrhage occurring three days after an operation on the turbinals. The operation and vascular lesions may well have been merely coincident.

A SPLIT-FLAP FOR THE REPAIR OF BOTH LIDS.

Dr. E. F. Snyder has used a large temporal split-flap for this purpose after an operative sacrifice of a large portion of both lids in carcinoma. The flap is cut into halves, the one to restore the upper lid defect and the other to restore the lower lid defect, the pedicle forming the outer canthus. Dr. Snyder has been unable to find any record in the literature of others who have used this procedure.

PARALYSIS OF THE THIRD NERVE.

Dr. G. F. Suker reported a case of paralysis of the third nerve of specific origin, the lues having been contracted thirty years ago. A short time ago the

patient had a pseudo-apoplectic attack, and the following day there was complete ptosis of the upper right eyelid. The patient is taking 30 to 50 grams of sodium iodid and applying 25 to 30 grams of mercurial ointment daily.

E. V. L. BROWN, Secretary.

CHICAGO MEDICAL EXAMINERS' ASSOCIATION.

The tenth annual meeting of the Chicago Medical Examiners' Association was held Monday evening, Jan. 21, 1907, at the Union Hotel.

President's address by Dr. E. L. Hayford. The speaker reviewed the general conditions prevalent in the world of insurance during 1906 and drawing therefrom the hope of satisfactory and improved relationship between the home office and the medical examiner.

Treasurer's Annual Statement.—To the Officers and Members of the Chicago Medical Examiners' Association. Gentlemen: I have the honor to present herewith this statement as your treasurer for the year 1906 to-wit:

Cash on hand as per last annual report, Jan. 15, 1906.....	\$121.09
Cash collected from members as dues.....	74.00
Interest received on funds in bank.....	3.60

Total receipts	\$198.69
Dis-bursements as per vouchers	62.20

Balance on hand Jan. 21, 1907.....	\$136.49
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Respectfully submitted,

ULYSSES J. GRIM, Treasurer.

Secretary's Report by Dr. S. Eisenstaedt.—A brief review of the work done by the Association for the year 1906 was given. Total attendance at six regular meetings, 154, or an average of 25 per meeting.

The following officers were elected: J. Allen Patton, President; W. S. Royce, Vice-president; Councilor, E. L. Hayford; Secretary, S. Eisenstaedt; Treasurer, U. J. Grim. In accepting the office of President, Dr. Patton expressed his appreciation of the honor conferred and returned thanks for this evidence of regard and confidence. After referring to the duties imposed by the acceptance of this trust and bespeaking the active and loyal support of the membership, without which no organization can long endure, the President gave a brief outline of the scope and nature of work for the present year. Dr. Montgomery presented the following resolutions, which were seconded by Dr. C. P. Stringfield and carried, to-wit:

"WHEREAS, No national authority in sanitary matters now exists having direct reference to the control of infectious and other diseases;

"WHEREAS, The appearance of epidemics throughout various sections of the United States at frequent intervals during the past decade demands from the United States government organized means to suppress them and otherwise to protect the public health of our citizens; therefore, be it

"Resolved, That it is the judgment of the Chicago Medical Examiners' Association that the sanitary interests of this country require the organization of a national department of health, with the appointment of an ideal physician at its head to be known as the secretary of said department of health; and be it further

"Resolved, That to this end the Chicago Medical Examiners' Association endorses and approves the action of the Committee on Medical Legislation of the American Medical Association held at Washington, D. C., in December, 1906.

It was moved by Dr. Montgomery "that this Association endorses the action taken by the Council of the Chicago Medical Society at its meeting held Jan. 8, 1907, in protesting against the passage by the Congress of the United States of bill No. 5221, entitled "An Act to Regulate the Practice of Osteopathy in the District of Columbia." Carried unanimously.

The following amendment to the by-laws of our constitution was proposed: "The annual meeting of this Association shall be held on the fourth Tuesday in

January," instead of the third Monday. Due notice of this proposed amendment shall be given before the next meeting in March.

Dr. Denslow Lewis offered the following resolutions:

"*Resolved*, That, in the opinion of the Chicago Medical Examiners' Association, the fee for a medical examination for life insurance should be at least \$5.00 in all cases.

"*Resolved*, That we urge upon all life insurance companies the propriety and advisability of making an adequate payment for professional services rendered.

"*Resolved*, That we favor all fair means and recommendations which tend to secure a proper compensation for the work of the medical examiner.

"*Resolved*, That we recognize the privilege of each medical practitioner to determine for himself regarding the fee which he is willing to accept for his services in any capacity and that we deprecate all action by any medical society which would deprive a member of the privilege of association in case he sees fit to accept a smaller fee than would be acceptable to some other member of the Society."

These resolutions were seconded by Dr. I. C. Geary and, after full discussion, were unanimously carried.

It was moved and seconded that a copy of the minutes of each meeting be sent for publication to the editor of the *Medical Examiner and Practitioner*. Carried unanimously.

The President, Dr. Patton, finally announced the appointment of the following committees: Membership, Drs. Grim, Hayford and Wade; Committee on Program, Drs. Croftan, Royce and Eisenstaedt; Publication Committee, Drs. Eisenstaedt, Wood and Montgomery.

S. EISENSTAEDT, Secretary.

DE WITT COUNTY.

The DeWitt County Medical Society met in the County Court room, at Clinton, Tuesday, Oct. 6, 1906, and listened to the following program: Reports of Cases; paper, The Value of Early Diagnosis, Dr. E. Mammen, Bloomington; Symposium on Labor: (a) The Use of Anesthetics in Labor, Dr. W. E. Chalstran, Lanes; (b) When to Use the Forceps in Labor, Dr. G. G. Dowdall, Clinton; (c) Some of the Serious Complications of Labor, Dr. John H. Zeigler, Farmer City. Discussion by Dr. W. E. McLellan and Dr. W. M. Craig.

Meeting of April 9, 1907.

The Dewitt County Medical Society met in Clinton Tuesday, April 9, President P. M. Wilcox in the chair. Present, Drs. Chapin, Chalstran, Craig, Campbell, Dowdall, Edmonson, Edmiston, Hartea, Kirby, Tyler, Wilcox and Kreider and Hagler of Springfield. The secretary read a communication from the state secretary that the state dues would be \$1.50 and medical defense fund \$1.00. A communication was also read from the committee appointed to arrange for a proper memorial to be presented to Drs. Hollister and Ensign at our next state meeting and the society voted to send \$2.00 for the same. Dr. George N. Kreider read an instructive paper on Congenital Fistula of the Sacro-Anal Region. He reviewed the literature in detail and the society enjoyed his comments on this interesting subject. Dr. A. E. Campbell discoursed on Observations Made in Twenty Years' Experience, which was freely commented upon by many present. Dr. E. E. Hagler presented a case of enlarged thyroid in a woman; the growth came on shortly after an injury in a run-away. The opinion prevailed that the growth was cystic and an operation was probably indicated. The following officers were elected: President, A. E. Campbell, Clinton; vice-president, W. E. Chalstran, Lane; secretary and treasurer, G. G. Dowdall, Clinton; censor, three years, G. S. Edmonson; delegate to state society, C. W. Chapin.

HANCOCK COUNTY.

The Hancock County Medical Society met at Carthage Monday, April 1, at 7 o'clock, and listened to the following program: Paper, Medical Ethics, a Plea, B. R. Roberts, Augusta, Ill.; address, Hon. O. F. Berry, Carthage, Ill.; paper, Amblyopia, E. M. Hansom, Keokuk, Iowa; paper, Ulcer of Stomach and Duodenum, J. B. Bacon, Macomb, Ill.; paper, Influenza, Louis N. Tate, Carthage, Ill.

JACKSON COUNTY.

The Jackson County Medical Society held its regular monthly meeting in the Logan House parlors at Murphysboro, March 21, at 2 p. m. The following members were present: Drs. McAnally, Monroe, Etherton, Keiser, Davis, of Carbondale; Drs. Ingram, Ormsby, Molz, Etherton, Roth, of Murphysboro; Dr. Agnew, of Makanda; Dr. Horstman, of Vergennes; Dr. Tweedy, of Oraville. Dr. A. R. Carter, of Cora City, was elected a member of our society. The following clinical cases were presented for diagnosis, treatment, and discussion: Pyelitis with Complication, by Dr. H. G. Horstman; Diabetes Mellitus, by Dr. C. O. Molz; Peripheral Facial Paralysis, by Dr. H. H. Roth. The meeting adjourned to meet at Murphysboro April 18, 1907.

McLEAN COUNTY.

The March meeting of the McLean County Medical Society was held at the Congregational Church on the evening of the 9th at 8 o'clock. This was a public meeting and was addressed by Dr. J. W. Pettit, of the Ottawa Tent Colony. His subject was "Tuberculosis in Illinois." He spoke of the present crusade against tuberculosis in Illinois, having its origin in Bloomington at the time of the state meeting in 1904. Following this meeting, the Ottawa Tent Colony was started, the purpose being to determine if tuberculosis can be successfully treated in this climate. It was anticipated to have this institution supported by state aid, but owing to inability to get the requisite state appropriation the Ottawa Tent Colony has become essentially a private institution. Dr. Pettit stated, in part, that there are 160,000 deaths each year from tuberculosis, more than one-half of all fatalities in the Civil War. One-tenth of all deaths are due to tuberculosis of the lungs and one-seventh of all deaths due to tuberculosis of various organs, etc. This crusade has for its purpose the arousing of the public with the hope of gaining their cooperation to fight this widespread disease. The public looks upon such disasters as the Iroquois fire and the Slocum as appalling, while they are insignificant as compared with the ravages of tuberculosis. Much harm is done by calling tuberculosis a contagious disease. It is not contagious, as smallpox, etc., but is communicable. It is only feebly contagious under certain conditions which can easily be avoided, e. g., by destruction of all sputa. The uncontrolled patient only is a menace. Sanatoria, properly conducted, are the safest places possible, because of control had over patient. Physicians and nurses at sanatoria are practically free from disease. The great work of sanatoria is in what they teach the patient, and through him the public, towards limiting the spread of disease. It has been demonstrated that tuberculosis can be cured in all climates. The open air is the important factor. Colorado, New Mexico, Arizona, California, etc., are filled with people who should never have left home. Home sickness, lack of money, bad food, inability to rest are results of change of climate which only hasten progress of disease. Patients cured in any climate do better to remain in that climate; are subject to relapse on return home. Cure is dependent upon fresh air all the time, judicious feeding, mixed diet, rest. The average patient who is doing well will eat about two and a half times that of an ordinary person. Generally take three quarts of milk and six to eight eggs daily, besides regular meals. The treatment of tuberculosis is neither simple nor easy and requires skill. Must have medical supervision. Patient is naturally erratic.

Early diagnosis is very essential to cure. Advanced cases are in great danger to relapse. Ninety per cent. of incipient cases can be cured; the farther advanced

the less favorable the results. There are few diseases that are more favorable than an incipient case of tuberculosis. There are few diseases that are more unfavorable than an advanced case. It is hard to get patient to understand that he is not well and that the danger is not passed when the disagreeable symptoms are relieved. No single element of cure is adequate; all must be used. Patient should know his condition and full import of same. Fresh air excellent way to reduce temperature.

Dr. Pettit illustrated his lecture by the stereopticon and showed a number of views of the Tent Colony.

THOMAS W. BATH, President.
O. M. RHODES, Secretary.

MORGAN COUNTY.

The Morgan County Medical Society held its regular meeting at the Library March 14, 1907, at 8 p. m., President E. L. Crouch in the chair. Fifteen members present. Dr. E. F. Leonard was unanimously elected to membership of the Society.

A motion prevailed instructing the secretary to send to the proper persons copies of our resolutions protesting against the following bills before the Legislature: House Bills 318, 319, 66, 474, 256, 324, 536 and Senate Bills 21, 341, 377. Also the resolutions endorsing House Bills 468, 408 and 558 and bill for appropriations for the epileptic colony and sanitarium for consumptives; also that the society endorsed the position taken by the Governor relative to clinical teachings in the state institutions. Dr. Grace Dewey read a paper on the Pathological Report of a Case of Carcinoma of the Uterus and a Case of Dermoid Cyst of the Ovary. Discussed by Drs. Milligan, Black, Hairgrove and Reid.

The paper by Dr. Watson Gailey was on the Removal of a Fauical Tonsil and Report of a Case of Hemorrhage Following Tonsillectomy. Discussed by Drs. Reid, Dunean, Byron, Gailey and Hairgrove.

ALLEN M. KING, Secretary.

PEORIA COUNTY.

The Peoria City Medical Society has elected the following officers: B. M. Stephenson, President; F. B. Lucas, First Vice-president; P. H. Kelley, Chilli-cothe, Second Vice-president; J. H. Baen, Secretary and Treasurer. During the recent meetings the Society has taken up the study of pneumonia and infectious diseases. The program of meetings April 2 and 16 were as follows: April 2, Symposium on Venereal Diseases, W. R. Allison, J. F. Cooper, E. L. Davis, W. T. Dowdall, R. L. Green; April 16, Kidney, S. M. Miller.

RANDOLPH COUNTY.

The Randolph County Medical Society held a very interesting meeting at Sparta in Dr. Gault's office on April 9. Dr. R. E. Davis of Coulterville and Dr. W. A. McKenzie of Sparta were elected members. Dr. H. S. Stevenson was a visitor. Dr. J. W. Robertson of Coulterville presented a carefully prepared report of a miscarriage in which the placenta was retained eight days after the embryo had been thrown off. The report was discussed at length by Drs. W. R. McKenzie, J. W. Weir and H. S. Le Saulnier. Dr. C. G. Smith of Red Bud, as retiring president, read a paper on The Objects of County Medical Societies. Discussion followed by Drs. Riess, Gault and Adderly. Dr. H. T. McKee of Sparta presented an instructive discourse on Cleanliness. The insurance examination fee question was thoroughly discussed and arrangements were made to have every physician in Randolph county, whether he is a member of the county society or not, sign a declaration in favor of the standard five dollar fee. The annual election of officers resulted as follows: Dr. H. C. Adderly, Chester, president; Dr. H. L. Gault, Sparta, vice-president; Dr. C. G. Smith, Red Bud, secretary and treasurer.

ST. CLAIR COUNTY.

The annual meeting of the St. Clair County Medical Society was held at the Court House in Belleville on Thursday, April 4, 1907, and was attended by the largest number of physicians ever seen at any meeting of the society. The unusual interest in the meeting was occasioned by the presence of Dr. E. H. Ochsner of Chicago who presented a most interesting and instructive paper on the Etiology, Pathology and Treatment of Flat Foot. The following officers and members were present: Wangelin, president; Lillie, recording secretary; J. W. Twitchell, corresponding secretary; A. E. Hansing, treasurer; and Drs. B. E. Twitchell, A. B. Gunn, Massie, Hilgard, H. Hertel, H. G. Hertel, Fairbrother, Rendelman, Wiggins, W. S. Wiatt, W. E. Wiatt, Harney, Adams, Sloey, Campbell, Hanson, Miller, Caldwell, H. S. Smith, Tegtmeyer, Reuss, Linder, Kerchner, Scruggs, Skaggs, Butler, Bottom, Lippert, Beedle, Raab, Washington West, Washington West, Jr., Rayhill, Irwin, Culbertson, Walter Wilhelmj, Renner, McMurdo, Auten. Guests of the society were Drs. E. H. Ochsner, Chicago; D. S. Booth, Nathaniel Allison, L. H. Hayes, Shrainka, St. Louis; and Huggins, Belleville. The president appointed as nominating committee: Gunn, Hilgard and Butler. The Board of Censors reported favorably on the following gentlemen: Dr. J. M. Wilson, Marissa; Dr. W. W. McMurdo, Marissa; Dr. Chas. L. Tegtmeyer, Smith-ton; Drs. B. E. Twitchell, Charles Renner and Benjamin Kunze, Belleville; Drs. O. J. Culbertson and Chas. E. Eisele, East St. Louis. All were elected to membership. The nominating committee reported nominations as follows: For president, J. W. Rendleman, East St. Louis; vice-president, J. W. Twitchell, Belleville; recording secretary, C. W. Lillie, East St. Louis; corresponding secretary, C. S. Skaggs, East St. Louis; treasurer, A. E. Hansing, East St. Louis. On motion the report of the committee was accepted and the secretary was instructed to cast the ballot of the society for the nominees.

Dr. E. H. Ochsner read his paper on "Flat-Foot," in which he presented statistics showing that this defect is present in a much larger percentage than most persons suspect. That many rejections for army service are due to this cause, and that as the causes of rejection as given only cover the "major causes," it is highly probable that many more could be rejected for this cause. The author thinks that many cases of pain in the legs, often called "rheumatism," are only the result of "flatfoot." That the cases of the greatest deformity are not the ones giving the most pain; that it is in the beginning that the most suffering is experienced. Charts were presented showing the nature of the condition and the causes operating to produce it. Plaster casts were also shown with the treatment by adhesive plaster applied in the manner giving the best results as shown by personal experience. The paper was discussed by Drs. Nathaniel Allison, Fairbrother, Wiggins, Campbell, Henry Hertel, Reuss and Hanson.

Dr. Fairbrother offered the following resolution, which, after some discussion, was adopted: Resolved, By the St. Clair County Medical Society that we heartily approve of the bill now before the Legislature for the establishment of a Medical Department of the Illinois State University, and urge our Representatives to assist in the passage of this measure.

C. W. LILLIE, Recording Secretary.

WHITESIDE COUNTY.

The regular bi-monthly meeting of the Whiteside County Medical Society was held in the council rooms of the City Hall, Morrison, Wednesday, April 3, 1907, at 10:30 a. m., with Dr. E. P. Sullivan of Morrison in the chair. The following new members were elected: Dr. S. A. Allen, Rock Falls; Dr. W. H. Durkee, Fulton; Dr. J. McEntire, Erie; Dr. F. W. Farley, Fulton. Dr. Charles E. Horner, Tampico, read a very interesting and effective paper on the Use of the So-Called Clay Poultice. Dr. Griswold of Fulton opened the discussion in a very able manner. The following members were present: Drs. E. P. Sullivan, C. E. Horner, J. I. Keefner, J. R. Keefer, Griswold G. Proctor, C. G. Beard, F. Gordon, W. H. Dunke, E. Matthews, F. Anthony, F. Fitzgerald, A. H. Harms, A. C. Smith and E. L. Dorr. Meeting adjourned to meet at Morrison June 5, 1907.

NEWS OF THE STATE.

Dr. E. H. Graves has removed to Boody.

Dr. Ernest Brittin, of Chatham, will remove to Auburn.

Dr. I. O. Paul, of Pecatonica, has removed to Winnebago.

Dr. Wilfred H. Gardner, Bloomington, has gone to Germany.

Dr. Max F. Clausius, Palatine, has removed to Norwood Park.

Dr. David T. Douglas, Colfax, sailed for Europe about April 1.

Dr. Joseph B. DeLee has gone to Europe for a four months' trip.

Dr. Frank Billings and daughter returned from Europe April 18.

Dr. Edwin Pynchon has changed his residence to 4545 Michigan Ave.

Dr. W. A. Brittin, of Auburn, has made arrangements to locate in Virden.

Dr. J. F. White, of Auburn, has been elected president of the school board.

Dr. Charles S. Bacon returned April 13, after a two months' trip abroad.

Dr. John J. Rigg, Mount Pulaski, will leave in a short time for Europe.

Dr. Gustavus A. Fischer was robbed of his watch and \$6 in money April 10.

Dr. William R. Parkes has been reappointed health commissioner of Evanston.

Dr. Charles C. Rayburn, Kewanee, has gone west for the benefit of his health.

Dr. L. Harrison Mettler has resigned from the faculty of the Chicago Clinical School.

Dr. Henry B. Favill has been elected director of the Chicago Relief and Aid Society.

Dr. Carlos Allen, of Virden, is taking treatment in Chicago for Hodgkin's disease.

Dr. J. S. Collins, of Carlinville, has been nominated for mayor on the Republican ticket.

Dr. J. J. Rigg, of Mt. Pulaski, has departed for England for a period of professional study.

Dr. C. W. Coe, formerly of Stonington, Christian county, has located at Redlands, Cal.

Professor Behring, who was reported to be mentally broken down, has recovered and is again at work.

Dr. Ernest B. Mammen and daughter, Bloomington, sailed, early in April, for Europe, via the Mediterranean.

Dr. Nelson K. McCormick, Normal, has been appointed medical director of Brokaw Hospital, Bloomington.

Dr. Lawrence R. Ryan, Galesburg, has returned from an extensive trip through the western and southwestern states.

Dr. Archibald E. Franklin, Aurora, who has been ill for several weeks past with cirrhosis of the liver, has gone to Canada.

Dr. M. A. Reasoner, formerly of Morrisonville, is on transport duty in the United States Army between Manila and San Francisco.

Dr. David C. Kretzer, after three years' duty with the Philippine constabulary, has resigned and returned to his home in Decatur.

An epidemic of measles is reported at the Soldiers Orphans' Home, Bloomington, where forty-five cases and four deaths have occurred.

The Chicago Womens' Aid Society at its recent meeting donated \$1,000 to the Michael Reese Hospital for use in the children's ward.

Dr. Horatio S. Brewer was seriously injured by a collision with a street car, April 10, while pursuing pickpockets who had robbed him.

Dr. John Michael Doser, prominent physician and old resident at Grosse Point, recently committed suicide by swallowing carbolic acid.

Dr. John W. Dryer, Aurora, while bicycling, was thrown to the pavement by a runaway horse and suffered severe cuts and contusions of the face and body.

Dr. Clarence L. Wheaton delivered the public address on tuberculosis, April 15, at Shelbyville, under the auspices of the Shelby County (Ind.) Medical Society.

The Illinois Civil Service Commission held an examination for surgeons, pathologists and internes in the Illinois Charitable Eye and Ear Infirmary April 16.

Dr. Frank H. Gardner has been elected president, Dr. Henry S. Bennett, vice-president, and Thomas J. Lamping, secretary-treasurer, of the Moline City Hospital.

Dr. Fred Rose, Columbia, was seriously injured by the accidental discharge of a shotgun while hunting recently, and was taken to the Henrietta Hospital, East St. Louis.

E. H. Colegrove Co., medical booksellers, have moved to 67 Wabash Ave.; increased business has demanded larger quarters, and the present location offers much better facilities.

Three new cases of scarlet fever were discovered in Rockford, April 15, all on the West Side. The center of infection from which the cases originated has not yet been discovered.

Dr. M. H. Kutch has sold his practice at Arthur to Dr. Z. D. Lumley, of Kampsville. After spending the summer abroad, Dr. Kutch states that he will locate in Terre Haute, Ind.

The Jersey County Medical Society has elected the following officers for the ensuing year: President, Dr. L. T. Waggoner; vice-president, Dr. Miles B. Titterington; secretary, Dr. H. R. Gledhill.

As a result of the examination of the ninety-six students at the Cook County Hospital recently forty-four passed the required grade. Fifteen of the successful applicants will be appointed internes in June.

The Illinois State Board of Health has recently issued its annual report for the year ending Dec. 31, 1906. It has also issued a neatly-bound volume of all the bulletins which it has issued during 1906.

The Sangamon County Medical Society, at a special meeting held April 20, recommended the appointment of Dr. Stanley Castle as city physician of Springfield and Dr. H. C. Blankenship as health officer of Springfield.

It is stated that smallpox, which is reported prevalent among the suburban towns along the Rock Island Railroad, has caused the closure of the Calumet High School, whose 200 pupils have been recently exposed to infection.

The Chicago Tuberculosis Institute estimates that they will require \$25,000 for the expenses of the current year to carry out investigation of conditions in homes, workshops, stores, public conveyances and traveling exhibits and lectures.

Dr. Joseph F. Todd, city physician, Chicago, has submitted a report of the work done in his department for the fiscal year. There were 2,705 visits and inspections made, 87 of which were alcoholism. Aid was rendered to 104 injured persons.

A committee of physicians requested by the mayor of Chicago to select a candidate for health commissioner, at an adjourned meeting, April 13, fixed on Dr. William A. Evans for that position. Mayor Busse has appointed him to the office.

An examination was held, April 11, at Cook County Hospital, for internship at the Cook County institutions, Dunning. The board was composed of Drs. William L. Baum, O. C. Wilhite, Charles E. Kahle, John D. Robertson and J. B. Caldwell.

The Kansas State Medical Society will hold the forty-first annual meeting at the Union Club Hall, Kansas City, Kan., May 8, 9 and 10. Especial interest attaches to this meeting, as Dr. L. L. Uhls, of Osawatomie, the president, is a native of Illinois.

The medical staff of the Children's Memorial Hospital, Chicago, has elected Dr. J. P. Houston president to succeed the late Dr. Fernand Henrotin. Dr. Edwin Ryerson was elected orthopedist, and Dr. David Fiske was added to the eye and ear department of the hospital.

Mr. M. A. Lane, formerly of the department of anatomy at the University of Chicago, has taken charge of the histology work at the Turek Institute, and Professor Conrad Jacobson, professor of physiologic chemistry at Armour Institute, has accepted the position of food analyst.

Dr. Alfred C. Girard, brigadier general U. S. Army, retired, has been appointed librarian of the medical department of the John Crerar Library. He is now rearranging the library, especially the Senn collection, so that it may be made more easily accessible to the profession.

It is reported that about fifty physicians from Chicago are planning to make an automobile run from Chicago to Rockford at the time of the annual meeting of the Illinois State Medical Society. The automobile exhibit will undoubtedly prove to be an attractive feature of the meeting.

The thirty-second annual meeting of the American Academy of Medicine will be held at the Hotel Dennis, Atlantic City, June 1, and Monday, June 3, 1907. The president, Dr. C. A. Wood, of Chicago, has selected for his annual address "A Medical Career and the Intellectual Life."

The Mercy Hospital of Chicago will build an addition at the northwest corner of Calumet Ave. and Twenty-sixth St., to cost \$22,000. It will be four stories high, 80 by 100 feet ground dimensions, and will be devoted to private rooms. There will be a bathroom in connection with each room.

The Ottawa Tent Colony has recently issued a little pamphlet giving a brief report of the work done and which is being done at that institution for the treatment of pulmonary tuberculosis. There is also given a description of the methods employed and some suggestions as to how still better results may be secured.

Theodore D. Buhl, for ten and a half years connected with the house of Parke, Davis & Co., serving both as president and director, has recently died. To his untiring efforts, large experience and sound judgment is credited the large growth in the commercial world of the pharmaceutical house which he represented.

The Delaware Senate has passed a bill opposed to the practice of Christian Science and faith treatment in that state. The bill had passed the House two weeks before and, after a final open debate between representatives of Christian Science and the medical profession, was passed by the Senate by an overwhelming vote.

The Nicholas Senn Club had as its guest of honor, April 15, Dr. Howard A. Kelly of Johns Hopkins University, Baltimore, who read a paper on "The Recent Advance Work on Genitourinary Affections." Among the speakers were Drs. Henry T. Byford, Emil Reis and Franklin H. Martin. Dr. Lucy Waite acted as toastmaster.

The annual report of the secretary of the Visiting Nurses' Association of Chicago shows that the year has been successful. A number of bequests have been received and the association aided in the establishment of the Edwards Tuberculosis Fresh Air Sanatorium at Naperville. A central home for the nurses is now being considered.

The exhibit committee for the Rockford meeting has inaugurated a new feature in the arrangement for an automobile exhibit. A number of firms will exhibit machines of a type suitable for physicians' use. They will be stationed about the society's headquarters and will be demonstrated to those interested in this mode of locomotion.

The council of the Chicago Medical Society, at a meeting April 9, unanimously endorsed the establishment of an emergency hospital in the central portion of the city, to be known as the Iroquois Memorial Hospital. The hospital is to be, save in name, a branch of the Cook County Hospital, and, in return for the use of its name, the Iroquois Memorial Association has agreed to contribute the \$25,000 already collected and such other sums as may be raised by members of the association.

What will be known as the T. P. & W. Railroad Surgeons' Association was organized at Peoria, Ill., April 1. The organization expects to be affiliated with the American Association of Railway Surgeons. The visiting surgeons were the guests of Dr. Elmer M. Echard, surgeon-in-chief of the Toledo, Peoria & Western Railroad.

The Cass County Medical Society met at Virginia in their annual meeting and interesting discussions were given by Dr. C. E. Black, of Jacksonville, on tumors; Dr. A. L. Adams, of Jacksonville, on tuberculosis. Dr. J. W. Reid, of Jacksonville, was also in attendance, as were Drs. Soule and Bley, of Beardstown, Glen, of Ashland, and Franken, of Chandleersville.

The directors of the Brokaw Hospital, Bloomington, have adopted a resolution declaring that a considerable number of members of the staff have lost interest in the work and aims of the hospital, the medical staff is dissolved, with a view of future organization of a staff with smaller membership and on such lines as will inspire greater interest on the part of its members.

At a joint meeting of the Vermilion, Piatt and Champaign County medical societies, held at Champaign recently, fifty-three members of the three societies were present and the visiting physicians were entertained at supper at the Hotel Beardsley. At the evening session Dr. Charles E. Wilkinson, Danville, vice-president of the Vermilion County Medical Society, presided.

Beginning April 3 Dr. Nicholas Senn will lecture on military surgery every Wednesday at 5 p. m. at Rush Medical College, taking up in succession ancient and medieval military surgery, the period of awakening of military surgery, the dawn of modern military surgery, and the evolution of the military surgeon. To these lectures military surgeons and the medical profession at large will be welcome.

It is announced that the first World's Pure Food Show will be opened in the Chicago Coliseum November 19 and will continue for one week. The test committee for the exhibit will consist of Dr. Harvey W. Wiley, Washington, D. C.; Drs. John H. Long, Ralph W. Webster, Archibald L. Hoyne and Joseph F. Biehn, of Chicago; Prof. Julius Stieglitz, of the University of Chicago, and Dr. James A. Egan, secretary of the State Board of Health.

Dr. A. C. Croftan, of 100 State St., Chicago, who has been seriously inconvenienced since 1903, when he was incorrectly listed as a homeopath in the official register issued by the Illinois State Board of Health, desires to have it known that he received his original diploma from the University of Pennsylvania and has taken numerous courses in Europe since then, none of them being of a homeopathic nature, and has no connections with a homeopathic school.

The thirty-first annual meeting of the Brainerd District Society was held at Lincoln April 24. The officers elected were as follows: President, C. C. Montgomery; first vice-president, A. G. Servoss, Havana; second vice-president, D. W. Deal, Springfield; third vice-president, J.

W. Bozarth, Mount Pulaski; secretary, H. S. Oyler, Lincoln; treasurer, C. C. Reed, Lincoln; board of censors, J. M. Wileox, Clinton, W. A. Mudd, Athens, and C. M. Noble, Bloomington. The next meeting will be held at Petersburg.

As a result of the recent municipal elections in Illinois the following medical gentlemen have been elected or rejected for office: Dr. J. S. Collins was elected mayor of Carlinville, Dr. T. C. McCord was elected mayor of Paris, Dr. J. A. Wheeler was elected mayor of Auburn, Dr. J. C. Westervelt failed to be elected mayor of Shelbyville, Dr. Paul Allyn was elected alderman of Waverly, Dr. M. H. Goodrick was elected alderman of Jacksonville, Dr. J. W. D. Mayes was elected president of the school board of Illiopolis.

Mr. Fred Busse, mayor of Chicago, made the following statement in connection with his appointment of a new commissioner of health: "In regard to the appointment of a commissioner of health, I intend to consult with a number of well-known citizens, perhaps twelve or fifteen, including such men as Drs. Robert B. Preble, Nicholas Senn, John B. Murphy and Frank Billings. Let us have a good commissioner of health this time. I want to take the physicians into a partnership of responsibility with me, so that if an epidemic breaks out we will have a medical man toward whom the physicians of Chicago stand in the attitude of cooperation and not as his critics."

The Sixtieth Semi-Annual Meeting of the Æsculapian Society of the Wabash Valley will be held at Champaign, Ill., May 9, 1907. This is the largest district society in the state, with a membership of over 300, being pre-eminently a society for the general practitioner. The present officers are: Dr. Chas. B. Johnson, Champaign, president; Dr. F. E. Bell, Mattoon, vice-president; Dr. H. N. Rafferty, Robinson, secretary-treasurer. Dr. J. T. Montgomery, Charleston, Ill., Dr. C. E. Price, Eaton, Ill., Dr. T. E. Walton, Danville, Ill., Dr. Mark Rowe, Paris, Ill., and Dr. W. E. Bell, Terre Haute, Ind., constitute the Board of Censors. The program committee of the coming meeting is as follows: Dr. John A. Hoffman, Pesotum, Ill., chairman Section 1; Dr. G. W. Fuller, Paris, Ill., chairman Section 2; Dr. E. B. Cooley, Danville, Ill., chairman Section 3. Members having papers to contribute or cases to report will kindly communicate with the chairman of the appropriate section at once.

The United Stock Yards Branch of the Chicago Medical Society is one of the live organizations in the state. Meetings are held monthly at 9 p. m., at which lunch is served and an interesting program is given. The president is Dr. C. P. Caldwell, 4425 Michigan Ave; the secretary is Dr. A. T. Horn, 436 W. Thirty-first St. Concentrated wisdom is disseminated to the members of the society once a month. The last product of the secretary's brain is the following regarding regular attendance at the meetings: "Attend the medical meetings regularly. Ripen your acquaintance with your medical neighbor into frankness and intimacy; live medical life in all its richness and fullness. All are on the level under the society roof, perfect equality prevails. Ac-

cept the company of noble men who may be able to guide and befriend you. Here is an opportunity for getting a hundred differing points of view concerning live medical subjects that live medical men care for and need. No not be a conservator of ancient traditions. The title M.D. is evidence but not positive proof of fitness. Come to-night."

The Children's Memorial Hospital, Chicago, began the erection of its New Memorial Pavilion last month. The board of directors has purchased the block directly across the street to the south of the present buildings. The pavilion plan will be followed. The Cribside Society is planning to build the babies' pavilion this summer. When completed there will be the medical, surgical, cutaneous disease, isolation, observation ward and babies' pavilion and an administration building, heating plant and service buildings. When the two new buildings are completed the present building will be remodeled for the temporary surgical ward. The plans contemplate a complete and well-equipped hospital for the care and scientific study of children's diseases. It is a project worthy of the men and women who are behind it. The work is controlled by a board of directors, of which Mr. John R. Wilson is the president. The building committee is led by Mr. James F. Porter. The new medical pavilion is to be built from funds given by Mrs. Julia F. Porter and will be a memorial to Maurice Porter. It will accommodate about seventy patients.

MARRIAGES.

BRYCE REX WINBIGLER, M.D., of Seaton, to Miss Estella Jamieson, of Monmouth, April 11.

STEPHEN A. HEMMI, M.D., to Miss Helen Librenz, both of Chicago, at Springfield, March 23.

ROBERT C. BRADLEY, M.D., to Miss Charlotte Marie Perkins, both of Peoria, Ill., March 30.

LAWRENCE A. MENDONSA, M.D., Springfield, to Miss Antoinette Marie Pires, of Jacksonville, May 2.

DEATHS.

ELLAS W. WOOD, M.D., Geneva (N. Y.) Medical College, 1850, died at his home in Oak Park, Ill., April 17.

JAMES C. HALL, M.D., of Decatur, died April 24, having practiced in Illinois more than thirty years. He was a graduate of the Rush Medical College.

DANIEL M. FOSTER, M.D., Louisville (Ky.) Medical College, 1841, a pioneer resident of Bloomington, Ill., died at his home in that city, March 17, aged 90.

FLOYD CLENDENEN, M.D., Bennett College of Eclectic Medicine and Surgery, Chicago, 1874, died at his home in La Salle, Ill., April 4, from pneumonia, aged 69.

EDWARD F. JENNER, M.D., Eclectic Medical Institute, Cincinnati, 1878, formerly of Birds, Ill., died suddenly at his country home near Lawrenceville, Ill., from heart disease, March 22.

WILLIAM A. HARRIS, M.D., Chicago Physio-Medical College, 1889, died at his home in Monee, Ill., from pneumonia complicating typhoid fever, March 6, after an illness of ten days, aged 62.

J. C. KILGORE M.D., Rush Medical College, Chicago, 1869, a member of the American Medical Association, died at his home in Monmouth, Ill., April 9, from septicemia, due to an autopsy wound.

THOMAS W. DAVIS, M.D., Western Reserve University Medical College, Cleveland, 1857, for half a century a practitioner of DeWitt County, Ill., died at his home in Wapella, March 16, aged 79.

JOSEPH MARSHALL, M.D., St. Louis Medical College, 1853, a veteran of the Civil War and for many years a practitioner of Normal, Ill., died at his home, March 21, from dropsy, after a long illness, aged 74.

J. H. GROVES, M.D., for forty years a practicing physician at Effingham, died April 26. He was surgeon of the Fourth National Cavalry during the war and was a member of the squad which captured President Jeff. Davis of the Southern Confederacy.

ALBERT M. WARMER, M.D., Vermont Medical College, Woodstock, 1842, said to have been the oldest practitioner of Waukesha, Wis., county physician of Waukesha County for several years, died at the home of his adopted daughter in Chicago, March 15, aged 91.

HIRAM M. KEYSER, M.D., Rush Medical College, Chicago, 1863; on duty at Camp Douglas, Chicago, in 1862; receiving and disbursing agent for the territory of Montana in 1866 and 1867; representative to the Thirty-fifth General Assembly of Illinois; for several terms mayor of Momence, Ill.; died at his home in that city, Jan. 24, from angina pectoris, aged 72.

JOSEPH GILBERT BEMIS, M.D., College of Physicians and Surgeons in the City of New York, 1865; Bennett College of Eclectic Medicine and Surgery, Chicago, 1883; a member of the American Medical Association; assistant surgeon of the First Minnesota Volunteer Infantry during the Civil War; a practitioner of Chicago for twenty-four years; died at his home in that city, April 1, from tuberculosis, after an illness of four months, aged 62.

THOS. W. DRESSER, M.D., aged 70, of Springfield, died April 27 of pneumonia at the residence of his daughter in East St. Louis. Dr. Dresser served for a time in the Confederate Army and graduated at the University of the city of New York in 1864, coming immediately to Springfield, where for a period of forty years he was one of the leading practitioners. His wife died from the same disease and preceded him to the grave but two days.

EDWARD OSCAR FITZALAN ROLER, M.D., Rush Medical College, Chicago, 1859, who received his degree of A.M. from Depauw University, Greencastle, Ind., a member of the Illinois State and Cook County med-

ical societies, during the Civil War assistant surgeon of the Forty-second and surgeon of the Fifty-fifth Illinois Volunteer Infantry, and later medical director of the Fifteenth Army Corps on the staff of Gen. W. T. Sherman and of Gen. John A. Logan, for forty-five years a prominent practitioner and obstetrician of Chicago, for two years surgeon of the U. S. Marine Hospital, professor of obstetrics and diseases of women and children for many years in Chicago Medical College (Northwestern University Medical School), and later professor emeritus of obstetrics, who retired from active practice about three years ago on account of ill health, died at his home in Chicago, April 18, from chronic gastritis and interstitial nephritis, aged 74.

INCORPORATIONS.

Dr. A. P. Sawyer Medicine Company, Chicago; capital decreased from \$40,000 to \$10,000.

United States Medical Association, at Chicago; educational; incorporators, W. B. Byrnes, C. O. Bentley and W. Coughenour.

Swedish Covenant Hospital and Home of Mercy, Chicago; charitable; incorporators, A. Lydell, Charles Flodin, A. F. Youngdale.

Reliance Medical College, Chicago; capital, \$2,500; educational purposes; incorporators, Andrew J. Ryan, James J. Kelly, James F. Bishop.

Superba Instrument Company, Chicago; capital, \$2,500; manufacturing medical and surgical instruments; incorporators, Charles O. Farrington, Thomas Watson, J. W. Davis.

Dr. Howe & Co., Chicago; capital, \$3,000; manufacturing surgical, medical, electric and magnetic appliances; incorporators, Michael H. Powell, Morris Siegel, Benjamin J. Rueckberg.

BOOK NOTICES.

PATHOLOGY OF METABOLISM. Edited by Carl von Noorden. First Medical Clinic, Vienna, later of Frankfort. Second Edition. Three Volumes, Cost \$16.00, pay \$4.00 on receipt of Vol. 1, \$6.00 on receipt of Vol. 2, and \$6.00 on receipt of Vol. 3. W. T. Keener & Co., 90 Wabash Ave., Chicago, announce a second edition of von Noorden's famous work with the above title. The different articles are by von Noorden, Kraus, Schmidt, Weintraud, Mathes, Mohr, Levy, Neuberg, Salomen, Czerny, Steinitz and Lower. This remarkable collection of essays in regard to metabolism should be in the hands of every progressive practitioner, and indicates the high-water mark of this branch of medical science. We commend it to our readers heartily and trust the work will have a large sale.

ILLINOIS STATE MEDICAL SOCIETY

SECTION OFFICERS AND COMMITTEES.

SECTION ONE.

C. W. Little, E. St. Louis.....Chairman
 Ralph W. Webster, 100 State St., Chicago...
Secretary

SECTION TWO.

E. H. Ochsner, 710 Sedgwick, St., Chicago.
Chairman
 H. W. Chapman, White Hall.....Secretary
 COMMITTEE ON PUBLIC POLICY.
 Robert B. Preble, Chairman.
 Carl E. Black, Jacksonville.
 J. W. Pettit, Ottawa.
 The President and Secretary, ex-officio.

COMMITTEE ON MEDICAL LEGISLATION.

L. C. Taylor, Springfield.
 M. S. Marcy, Peoria.
 J. V. Fowler, Chicago.
 The President and Secretary, ex-officio.

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ORIGINAL ARTICLES

MEDICINE OF THE FUTURE.*

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President Illinois State Medical Society.

GALESBURG, ILL.

If the medicine of the future as an abstract discussion offers problems which seem in our day difficult to penetrate, we must remember that we are fortunate in living at a time in the world's history when science can really give a scientific reason for its existence. Our fathers trod the pathway of science with only here and there a problem that was settled to a degree sufficient to make it useful in their daily round.

They only occasionally cleared up anything that would add to the symmetry of the temple of scientific medicine. They laid here and there a stone in the foundation, and this often without cement. They established almost no principle worthy the name. They began just as life begins when it first consciously exists, by groping after the immediate needs for prolonging its existence and adding to its comfort. It is these things which have grown out of their immediate needs which have been handed down to us and which we have proudly designated as the science and the art of medicine.

No answer comes when we attempt to inquire why the Unknown did not give us a fully-developed science the same day that we were given the air we breathe. All that we can find in the way of answer is that we were given only possibilities. It has taken centuries for scientific men to realize how great these possibilities are. It is but a few years since we all talked of the impossibilities of science and with confidence fixed the degree of its limitations. Overwrought, indeed, in this day would a mind be considered that attempted to outline any such limitations. But no good thing in science has ever come quickly. It was evidently intended that science should be given to the race only in the degree that it was capable of appreciation by the race. Hopelessness as to final results has been the beginning of every scientific principle, except with the few optimists who continually write for us a story of possibilities in the future. The theory or ideal side of human existence has always been at war with the real or practical effects of this existence. Theoret-

*Address delivered at the general session of the Illinois State Medical Society, May 21, 1907.

ically, we look upon disease and death as a calamity of far-reaching importance. Practically, we utterly disregard these great impediments to our progress, treating them as if they were mere incidents in the onward march toward that goal which has limitless possibilities. The tears that choke the ducts of the eyes because death has won another victim last but for a moment, while science in the same spirit makes record merely of a momentary defeat. The future medicine will always inherit from the past that which must always be the inspiration of every good physician, i. e., character. The future medicine will recognize that the men in medicine of the past were good observers and, therefore, not ignorant of the problems that confronted them.

Medicine of the future will never cease to recognize the value to the profession and to the world the services of the known and unknown scientists in and out of our profession who started us on the pathway of true scientific accomplishment. It began with a single mind leading all the rest. It advanced when other minds joined with that of a master whose supreme effort was to remove the mental and physical sufferings of the race. It has reached its noblest proportions in our day wherein we are living witnesses to the fact of thousands of earnest workers, giving without reserve the best that there is in them for the removal of physical disease and physical death from the world forever. Indeed, the promise seems to have passed beyond the world of doubt where, in some future time that is surely coming, physical suffering will be left to the memory of the historian and pain merely one of the themes of the poet and dramatist.

Finally the world will know that all true scientific endeavor has rendered an invaluable service aside from the efforts of medical men to relieve the physical ills of mankind. They questioned all things, and in questioning, reasoned, and while reasoning, analyzed as to man's relation to things not only physical, but spiritual as well. The result of this has been that brutalizing and tyrannical ignorance is being beaten back to where even the spiritual life of the race is to be made nobler and more enduring. As science advances it is fair to presume that it will become less simple. But it will be aided and encouraged and understood by a gradually and grandly growing world-wide intelligence which will have as its basis a more complete general education.

In the presentation of my subject for the honor of your consideration it will naturally divide itself into two important periods—the immediate and the remote future. The immediate future we will consider as that period which is to be covered by the span of your life and mine, the end of which will be when we sit down to watch for the last time the descent of the sun behind the western hills. The remote future of medicine on that same evening will appear before you, and you and I will see with the eye of inspiration for that grand future time only what we have honestly put into the medicine of our period of life. I trust that I may be pardoned if I do not attempt to draw very closely what I consider will be the accepted standards for medicine as a science in either of these periods.

Before attempting to prophesy, however, as to the future, let us give one glance into the past. Medical historians tell us that Jenner discovered vaccination. But it is nearer the truth to say that the great service he did for mankind was merely the recording of an observation which had been the common property of the dairy farmers of that part of England for years. His position as a physician made it possible for him to bring it to the attention of our profession and through them to the needs of a suffering world. But Edward Jenner did not go beyond the practical application of this observation which history tells us was told him by a milkmaid. He did not even follow the advice of his great teacher, John Hunter, who, when his pupil told him of his ideas regarding the prevention of smallpox by the inoculation of the virus of cow pox, is said to have replied: "Do not think; investigate." Had Jenner followed that advice his observation as to the prevention of smallpox would have been, as it should have been, the forerunner of many real discoveries. Not a single new line of inquiry resulted from this epoch-making observation. Indeed, the physicians of his time, and for long after, wrangled over the vagaries of Hahnemann rather than to constructively question the amazing plenteousness of the results of this work of Jenner's. In his day and for fifty years afterward the time of the scientist in medicine was devoted to the study of the symptoms of disease. But about this time two tremendous human scientific dynamos arose in the horizon of human knowledge, and with them the medicine of the future saw its first birth. The one was the chemist, Pasteur. The other was the physician and pathologist, Rudolph Virchow.

The decalogue of the moral world was written centuries ago by a single master mind on tables of stone. These prepared a disease-racked world for the second decalogue which was to be unfolded by the scalpel and the microscope of Louis Pasteur (1857) and Rudolph Virchow (1858). How grateful we humble physicians should be, and I say it reverently, that the great overruling mystery of life should do science the honor of giving it two such minds as these to lead it out of the wilderness of dogma and opinion into the clear white light where investigation without prejudice is to be the rule, not only now, but forever. Pasteur discovered that disease was due to fermentation. Virchow announced that the pathology of disease was due to the perversion of the living cell. Together they led the scientific world back to the basic principles of life as the only proper field for investigation, just as Moses led the children of Israel out of the wilderness of ignorance and superstition.

It would seem that the next great move in medicine must be its consideration from the standpoint of physiology and of physiological chemistry. It was said a moment ago that the physician of the future would maintain, as had his forebears, his personal character and the respect that has been given him in all ages because of it. He is also to do more than this in that he will give character to the scientific side of his profession. Out of this will grow the respect of even the man in the street, not only for the science of medicine, but for all true science. The time is not far distant when he who exults in what he may believe to be the

ignorance of science will find no facts for the shafts of his witless wit. The day in which medicine will no longer be spoken of as mere art is almost here. The days of radicalism in medicine are gone never to return. The radical in medicine will never be listened to again. The day of schools in medicine is also gone never to return. The statement of a brilliant writer recently made that "Medicine is an art that sometimes cures, often relieves and always comforts" will, in the light of the forward movements of the pointer on the dial of time, be revised so as to read: Medicine is *the* science that always comforts, always relieves and always cures. Medicine to-day is traveling in seven-league boots and it will continue so to travel until the remote period, already referred to, when the medicine of the future has arrived. Medicine will never reach its highest development until every physician has the heart and brain of the very best that has ever inspired the great human family. In addition to this he must possess the instincts and the training of the true scientist. This training will never be received under present methods.

In order to give the public the best that the medicine of the future has to offer it will be necessary to devise some means by which the physician in his daily rounds can obtain and make use of the practical results of the work of the laboratories and individual expert investigators. At present the laboratories and hospitals are furnishing valuable knowledge for the prevention and cure of disease faster than it can be given to or made practical use of by the physician in his everyday work. This is one of the problems for the future medicine. Just in the degree that it is settled, just in that measure will the sick public be benefited. In the future every county seat will have a bureau of information on medical matters in order to provide physicians with the latest advice along the newer lines of medical thought and practice. This will be done in most instances by the County Medical Society in coöperation with the County Commissioners. The present enormous monetary waste to the profession, and to the public as well, whereby every progressive physician must own expensive, but often infrequently-needed apparatus, will be done away with. Every county society will make it finally unnecessary for the profession as individuals in a given county to own expensive reference books, or to try and be experts in a half-dozen different branches of medicine. This is impossible. But this bureau of information will give the practitioner of medicine a ready means, not only of making use in a practical way for the benefit of his patients of the latest developments in medicine, but it will furnish him what is almost impossible to provide in the average office to-day, viz., assistance for the complete examination of his patients. Only in some such way as this can the profession and the public receive the full benefits of the work being done in the centers where scientific medical work is the rule.

Medicine of the future will require that the physician begin his work with a more than adequate preliminary literary and scientific education. Medicine of the future will require that this man or woman shall also have, before setting up as a physician, a hospital training. Only in some such way as this will the regrets that sadden the last days

of every conscientious physician over the memory of early failures that would have been avoided by a better system of medical education be reduced to a minimum. The medicine of the future is to see the day where the doctor in the country is to come into his own. The hospitals and laboratories will be in the country. The unsanitary city with its noise and dust and dirt will finally be made over. But the question of expense for ground and equipment will force these great humane cradles for the helpless into an environment more suitable for their highest development.

The medicine of the future will find the physician recognizing his need for dependence upon his colleagues. Medicine of the future will understand and correct the loss that is sustained in our day by our failure to recognize that back of every physician are the good angels, Ambition, Hope, Aspiration, Good-fellowship, and the sincere desire to be well thought of by his fellows. In the bitter working out of history your profession and mine have been slow to recognize this. In the medicine of the future the physician will not be circumscribed by state lines as in our day. Our colleague in another state, if he be in good standing in his county society, will find no legal hindrance to practicing his profession wherever the flag of his country marks its domain.

The great public does not know that the mortality from disease has been reduced 40 per cent. Again, this same public does not know that from ten to twelve years have been added to the expectancy of human life up to forty-five years. This not knowing is the explanation that this same public is so willing to put the possessor of some fantastic 'pathy or 'ism alongside of the educated physician from whom only these benefits have come. These humiliating and often discouraging hindrances of our day will not be known to the medicine of the future.

Science is surrounded by inexorable laws that are always true. It was Carlyle who recognized this when he said that "a lie in science can not live." Science is to be the final message that will prove not only the wisdom, but the beneficence of God. All that has gone before has been the mere bumping against scientific truth until we are being moulded into patterns that have on them the divine impress of that which all men will recognize as correct. It is not fair to presume that any of the facts of nature were ever intended to be hidden permanently. Science is merely waiting for a man to uncover them. The *x*-ray, that unknown quantity of light, stole along its silent path when the morning stars first sang together. Science will never be satisfied until it can "take life in its hands and play with it." Nature will give up her secrets to the clear-headed and to those who are scientifically honest. Science will never be satisfied until there are no more problems in science. The time is coming when the laboratory for original investigation will be mentioned only among the important events of history. The time is coming when the microscope will have given place to the *x*-ray and the latter, or some modification of it, will be the "all-seeing eye" spoken of by the prophets of old. More than this, it will be in common use by every one the world over.

Man will never be satisfied until he can enter the forest and reverse the process of growth. "Until he can stand by the mighty oak and see it recede until it becomes again but the acorn from which it sprang." The farthestmost limits of the unknown are to be as familiar as the making of bread, "as well known, indeed, as the harmonies which we call music." When this time comes there will be no more any problems which we can designate as medicine of the future. In that time every problem in anatomy will have been settled, and this will be true of every problem in physiology, in pathology, in bacteriology, in diagnosis and in diseases of the nervous system. In that day cancer will be known only from the description handed down as ancient literature from the textbooks of our day. Tuberculosis, typhoid and scarlet fever, and all the rest of the awful lot will be known as the ignorance of the ancients. In that day there will be no further problems either scientific or social. Man will have ceased, in that day, to allow all the breeding for the race to come from below. When that time comes we will have in increasing ratio the brains necessary to delve into the problems that confront us. The world has never tried to breed brains. The lower stratas of society have always furnished us the brawn, but only occasionally a brain of the first quality. When the real upper classes give us the products of real blooded heredity and continue doing it, then we will have finally a world of human beings whose normal state will be an exalted ecstasy, and they will treat the problems that confront them as the child of to-day unwinds riddles. Give us a brain that has been born right for generations, multiply this by a world of brains that have received the same treatment—will you dare to place a limit on what these multiplied, born-right brains can do? Physiologists tell us that within the skull of every human being there are more cells for thought than there are people on this globe of ours. If this is true, how pitifully lazy the most of us have proven ourselves to be. Think of the myriads of brain cells that have never received an impression or given out a thought. In the future time some one is going to show us a method by which every brain can be taught to think. No one ever has shown us, science again awaits a man.

In the future we will not need to compress our vision when we contemplate the possibilities of science. To-day we have got to compress our visions within our own purview. If we do not, we will be in danger of becoming "satiated to a point where individual initiative will be lessened and thought become a mere aimless wandering among facts that no longer stimulate." Few of us appreciate that the throne of thought is within the dome of our own skulls. Close proximity and familiarity has bred a withering, blighting disrespect which has kept us close to the border where ignorance has its domain. The physiology of the future will teach the children of men the possibilities along the lines of mental discipline, and they will then see with the eyes of the prophet the new heaven and the new earth promised to those who think.

If sugar can be made artificially, why not antitoxin? If antitoxin can be drawn from the blood of the horse, why can it not be obtained from the sap of some vegetable? If the x-ray can see a foreign body in

living tissue, why can it not be made to see a foreign foe in the form of a micro-organism in the blood or bone of man? If the spectroscope can analyze the gases in the sun and stars, is it unreasonable to assume that the toxins of the blood will yet be determined by some equally efficient instrument? If the heat of a common candle can be registered by the bolometer of Professor Langley at a distance of one and a half miles, what will prevent the final determination by man of any of the problems that confront him?

In the medicine of the future some one will write a text-book of medicine that will remain the standard for generations. Centuries ago Euclid did this for mathematics when he wrote his book on the elements of geometry, a book still in use in our public schools, and with only slight changes. Medicine of all sciences is the most fortunate in that it is attracting to its aid in the furtherance of its ambitions more of the sister professions than any other. Among those to be mentioned first are the civil engineers of the world. No profession or class of men have done more to bring the practical work of physicians to a beneficent solution for the prevention of disease than have the members of this great profession. Almost as much can be said of the law. The strength shown by the legal profession is mainly due to their mutual coöperation in making the laws. The medical profession has much to be thankful for in that the altruism of our motives in striving to rid the world of disease and to prolong life has been recognized by lawyers and no especially hindering legislation has been placed in the way of this. When the great day of the future medicine arrives, when the physician scientist has solved all problems, when the human heart no more tires because the hardening of the arterics which brings on the changes we now call old age is prevented, when the things that wear out the human body are removed, when the marvelous self-repairing powers of the human machine are encouraged so that the span of life can be prolonged indefinitely at the will of its possessor, and when finally the human brain having encompassed all knowledge and experienced all that the physical and mental world has ever offered or ever will offer, voluntarily lies down and willingly reverses the process of life until, Alice in Wonderland like, he is lost in the primitive germ from which he sprang, when this time comes, as come it will, medicine will enter upon the second stage of its existence in the future. Not only this, but this will be the final stage of the world in every line of endeavor, because science is to be the future and final God of this world and we are its children.

Medicine of the future can promise all this and more only because the doctor of the past has made possible what the future is to bring the world. In this country and in our day the physician is not being recognized except as an individual by his own community. When he leaves that community and journeys in company with his fellows to the halls of legislation to urge upon those over us in authority to give us laws that have for their only purpose the banishment of disease, he receives scant notice and less courtesy. While he is doing these things, no one recognizes as thoroughly as he that with every success before the legisla-

ture a very appreciable amount of his private income from his professional work will be taken from him.

He pleads that the state build sanitariums for the scientific housing of those of its citizens who are suffering from tuberculosis. He not only pleads with legislatures, but with all who have any influence with them, to bring about this imperatively needed scheme of treatment whereby lives may be saved and sickness prevented. At the same time he knows that for every consumptive person who is isolated he, the doctor, not only loses the income that might be derived from the treatment of that case, but what is of greater moment, the multiplied income that would be derived from all the new cases that would result from the keeping of that first case among his friends and at home in his family.

All that has just been said of tuberculosis can be said, as far as the money income for the individual doctor is concerned, of epilepsy, of smallpox, of pneumonia and all the rest of the blighting lot. Has any one ever heard that the physician as an individual, or in his collective capacity when organized into societies, ever failed to try and suppress these things? Perish the thought; he never has failed and never will. Of all the scandals that have ever touched poor weak humanity in all its parts of human endeavor, there is no record of such an infamous ignominy as this attaching to our profession. I speak of these things thus freely because the time has come when we must change our attitude toward the public. We have wrapped the coat of our own individuality around us, and, with an holier than thou attitude, kept the public from knowing not only what we were doing, but also the motives that are back of our doing. We must advertise that we are giving more time and thought to destroy the need of our profession than any other, and we must back up our statements with the proof. There is no other profession, certainly there is no business, conducted with this as the ultimate object. The public can not believe that the altruism that the above reveals can be true, and, therefore, I repeat, we must advertise the facts regardless of the humiliating conditions which make the advertising necessary.

But in the riot and revel, in the ecstasy and exultation that must come as we marshal future events and compel them to pass as in a vision before our eyes, we must not, we can not forget the physician in the ranks who has made and is making possible all that is beneficent in scientific medicine. We hear of his weaknesses, but we know his strength. He has toiled with the race from the days of barbarism to the present. He has climbed the rocks, he has waded through the mud, he has forded streams, he has pushed through the forests, he has been beaten by the storms of unrelenting Nature in his efforts to succor man. The blackness of the night with its chill and discomfort has not kept him back. The light of the day, whether in heat or cold, in snow or searching wind, has not discouraged him. Whether he himself was frail or rugged, whether more exhausted than the sick that he was called to administer to—this man, this doctor, has been the medium in every age, in every clime and in every country, through whom God has brought to

the service of suffering men all the curative and restorative agencies with which the works of creation abound. He has never been a warrior, but always a teacher. The things that he says to-day are treasured as if inspired by an oracle, and they are repeated among the children of men for generations. He comes before the cradle, and we whisper to him our last message, as to a mother, before we pass on into the Eternal Silence. His brain is the mute repository of our most deliberate secrets, be they the evidence of our weakness, our folly or of our sin. He forgets his own life when the anxious time in the life of another is upon him. He guides us through the labyrinth of symptoms of hostile diseases, he comforts us with his assurance, and we are conscious of his strength as he marshals the forces of his science against the foes of our body and mind. And, finally, when the somber shades of the evening of his life gather about him and he sits down as the dusk deepens, to contemplate what his profession has brought him, we note, as he thus sits in what is now the very outer court of death, that the lines of his face are not those of the money-grabber. He has not made money. But he is satisfied to have labored with the prophets, priests and kings of the earth for the betterment of the race. "He has been a missionary preaching the gospel of redemption from habits which destroy the body." He would rather be what he is with all that is embodied in his professional life than be known as the possessor of more mortgages than any other man in his community. He would rather, as his final day dies out of the sky, be able to realize that he had worn spotless the vestments of his profession; that he had successfully beaten back death even when the odds were against him; that he had banished the pain from the defenseless child; that he had saved the mother to her family, and that he had inspired the men of his race with a respect for science because of his devotion to it. I would rather be the physician who has done these things, and finally go down to the "tongueless silence of the dreamless dust" with the unstinted praise of those who knew but vaguely even, what I had really done for them, than to have received the plaudits of the world after having spilled the blood of its citizens in cruel and devastating war.

Clothed with character, robed in the mantle of ceaseless toil for the sick, underpaid, often unappreciated, frequently legislated against, carrying the rod of science with an altruism that knows no limits—the physician of to-day, of yesterday and of to-morrow "is only among his peers when in the company of the earth's most exalted."

"Ὁ βίος βραχύ—life is but a song;
Ἡ τέμνη μακρὴ—art is wondrous long;
Yet to the wise her paths are ever fair,
And Patience smiles, though Genius may despair.
Give us but knowledge, though by slow degrees,
And blend our toil with moments bright as these;
Let Friendship's accents cheer our doubtful way,
And Love's pure planet lend its guiding ray,
Our tardy Art shall wear an angel's wings,
And Life shall lengthen with the joy it brings."

THE RELATION OF TONSILLITIS TO RHEUMATISM.*

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One of the first references that I find to the relation of these two diseases was by Desmos about forty years ago. He stated that the poison of rheumatism occasionally favored the production of inflammation of the tonsils. The late Sir Morell McKenzie in 1880 endorsed this statement, and some other authors since that time have accepted this view, but the majority of those writing upon diseases of the throat have not mentioned any connection between the two diseases. I was one of those who several years ago accepted the theory that rheumatism was a frequent cause of tonsillitis, and I have seen some well-marked cases that tended to confirm that belief, yet during the past few years I have unconsciously drifted into the opinion that the relation was only exceptional. In 1901 F. De Haviland Hall and Herbert Tilley wrote: "It is now almost universally agreed that there is an intimate connection between tonsillitis and acute rheumatism." It must be conceded that inflammation of the tonsils and acute rheumatism are sometimes associated and that the same causes occasionally seem to excite the two affections. Some authors go so far as to claim that the rheumatic poison, whatever it may be, practically always enters through the tonsils. Dr. O. T. Freer, who examined the recent literature for me, has found a number of references to this subject, the most important of which are as follows:

In 1900 Woloshinsky (*St. Petersburg Wochenschrift*, No. 32) reported a house epidemic of nine cases of lacunar tonsillitis, immediately following which three of the patients acquired rheumatism. He regarded polyarthrititis as secondary to inflammation of the tonsils, which he thought was produced by pyogenic germs. Frederick A. Packard, writing in the *Philadelphia Medical Journal*, April 28, 1900, states that during the course of an angina or following it the most important complication is acute articular rheumatism. He thinks rheumatism an infection due possibly to several varieties of bacteria. The rheumatism also, he thinks, may be caused by absorption of toxins. This appears to me the most common cause. He believes infection frequently occurs through the tonsils, more especially in connection with acute rheumatism.

In 1901 Julius Ullman (*Medical News*, Jan. 26) expressed the view that the normal tonsil is a protection, but that the diseased tonsil is a source of infection, which may be the place of entrance for acute rheumatism, endocarditis and chorea. In the same year St. Clair Thomson (*New York Medical Record*, March 9) states that "Probably from 30 to 80 per cent. of the cases of acute rheumatism are preceded by angina, though the relation of the two affections is not yet clear. The tonsil without visible change may be a source of entrance for infection." An editorial in *The Journal of the American Medical Association*, Jan. 19, of the same year, entitled "The Tonsils as a Portal for Rheumatic Infection," appeared to express the prevailing opinion on this subject at that

* Read before a Joint Meeting of the Chicago Laryngological and Otological Society and the Chicago Medical Society, March 20, 1907.

time. It states "Tonsils seem not only to be able to act as places of entrance for articular rheumatism, but also for myocardial infection." Dr. W. Cheatham in the same year, in an epitome of the subject of rheumatism as a cause and effect in inflammation of the throat, published in the *New York Medical Journal*, expresses similar views.

In the *Münchener Med. Woch.* No. 4, Gürich asserts his belief, founded upon clinical experience, that in many cases articular rheumatism follows chronic desquamative inflammation of the follicles of the tonsils. In supporting this view he mentions a number of patients who for years suffered from numerous relapses of articular rheumatism that did not recur after treatment of the tonsils. In 1905 Rottenbiller (*Orvosok Lapja*, No. 27) mentions twenty-nine cases from his own practice in which polyarthrititis followed follicular tonsillitis, and the same year Parmentier (*Le Progrès Médical Belge*, No. 5) reports one case in a child where rheumatism promptly followed the cessation of tonsillitis.

The subject is summed up as follows by Isaac Adler (*The New York Medical Record*, Dec. 9, 1905, and *The New York Medical Journal*, March 31, 1906) who emphasizes the frequency of rheumatic infection through the tonsils: This infection need not appear as a follicular angina with fever, swelling of the tonsils, etc. On the contrary, a severe inflammatory reaction seems to act as a preventive of general infection. He thinks it proven that very virulent bacilli may pass through the tonsils without local changes in them of reactive or inflammatory nature. The thin epithelium of the lacunæ is most often injured, and germs may pass through it and enter the lymphatic vessels. For this reason a slight irritation of the tonsils may be the prelude to a more or less severe rheumatic or septic general infection. The author states that muscular rheumatism most often settles in the muscles of the neck, nape of neck and shoulder and that he is convinced that it has a bacterial source. The acute beginning of these symptoms is nearly always preceded by tonsillitis. He thinks also that the tonsillar source of pneumonia is certain in many cases, and he regards desquamative nephritis, without edema, vomiting or headache or other subjective or objective symptoms except the findings in the urine, as in some way related to tonsillitis. He advises the extirpation of tonsils that show the least sign of disease. The most dangerous tonsils he deems the non-hypertrophied ones, with soft permeable tissue and open communication with the lymph passages, especially where there are epithelial changes in the crypts.

I can find no evidence in support of most of his views, and certainly they do not agree with my personal observation. I had gradually grown to think that there was no intimate relation between tonsillitis and rheumatism, but the request of our secretary that I present a paper on the subject caused me to have an examination made of the records in my office of my private patients. Dr. G. W. Mosher has carefully looked over my case books, and from these records, which include the histories of 1,393 different patients who came to me suffering with acute and chronic tonsillitis, the histories of 100 acute cases have been taken without selec-

tion. An analysis of these seems to give a fair idea of the conditions that would obtain in all. Without selection, excepting as to age and sex, which seem to be determining factors in many cases, we took 100 other control records of patients coming to me with other diseases for the purpose of ascertaining as nearly as might be the frequency of rheumatism not associated with tonsillitis.

Statistics on the etiology of disease are frequently misleading on account of the absence of control cases; for example, if in 100 cases suffering from tonsillitis we should find that there were 50 who had suffered from rheumatism the customary way would be to conclude that rheumatism was the cause of the disease in 50 per cent; whereas if in the 100 control patients, without tonsillitis, we should find that 50 had suffered from rheumatism, it would appear that 50 per cent. of all patients suffer from rheumatism and that, therefore, there is no relation whatever between the angina and the arthritis.

An examination of our histories revealed some other points of interest aside from the question under consideration. For example, nearly all of the patients had indoor occupations and 70 per cent. were males. Interesting figures also appear regarding the ages of the patients affected. Only one was less than 10 years of age and only one was over 50; 7 per cent. were between the ages of 40 and 50; 11 per cent. between 10 and 20; 26 per cent. were from 30 to 40, and 54 per cent. were between the ages of 20 and 30 years.

An analysis regarding the character of the inflammation shows that 48 per cent. were follicular, 35 per cent. parenchymatous, 11 per cent. suppurative and 3 per cent. were ulcerative. In three the character was not stated. In 35 per cent. there had been no previous attacks. In 11 per cent. the patients were subjects of chronic tonsillitis; 9 per cent. had suffered from one or two previous acute attacks, and 45 per cent. had suffered several or many previous attacks. This analysis yields no definite results regarding exciting causes of the disease, although 30 per cent. were attributed to colds.

It was found from this analysis that 45 per cent. of my patients who were suffering with acute tonsillitis were having at the same time, or had had previously, or had immediately following, an attack of acute rheumatism; whereas only 16 per cent. of the control cases had been similarly affected. This would indicate that 29 per cent. of all cases of acute tonsillitis are closely associated with some form of rheumatism, and that in this proportion inflammation of the tonsils appears to be due to the same causes as rheumatism. However, as the term "rheumatism" in this analysis includes muscular rheumatism there is a possibility that in some of these cases the muscular pain may have been due to other causes. Of the 45 per cent. in whom rheumatism and tonsillitis had been in some way associated, 26 had muscular rheumatism and 27 had articular rheumatism, some of these having both varieties of the disease. Some had the rheumatism before the tonsillitis, some at the time, and part following the arthritis, while others had the attack at two or more of these times. This analysis shows that only 5 per cent. had acute rheumatism immediately before the tonsillitis, that during

or immediately following the attack of tonsillitis 8 per cent. had muscular rheumatism, and that 8 per cent. at these times had articular rheumatism. Thus only 13 per cent. showed any very clear association with the latter disease, for what was termed muscular rheumatism was possibly simply the aching due to the angina.

The figures appear to prove that 45 per cent. of all cases of acute tonsillitis are in some way associated with rheumatism; that 29 per cent. have more than an accidental relation, and that at least 13 per cent. are so closely associated with the latter disease as to justify the hypothesis of an identical cause. However, we must admit that they do not disprove a like etiological relation in the other cases.

Gürich, already quoted, believed that the removal of diseased tonsils would, in some cases at least, prevent the return of attacks of rheumatism, and Adler advises the extirpation of tonsils that show the least indication of disease, apparently for the same purpose. In all these cases of acute tonsillitis my records show only 11 per cent. that were affected with chronic disease of these glands; therefore, I can not agree with Adler that all tonsils showing the slightest evidence of disease should be removed; but I do believe that tonsils that frequently become inflamed or enough enlarged to interfere in any way with the normal functions of the throat should be excised or cured.

From this analysis I conclude: First, that I have gradually fallen into error regarding the relation of tonsillitis and rheumatism and that what has appeared to me merely casual is, in fact, due to an identical cause for the two in from 13 per cent. to possibly 29 per cent. of all cases of acute tonsillitis.

Second, 45 per cent. of the cases of tonsillitis have a rheumatic history, but 16 per cent. of other affections of the throat and chest also have a rheumatic history so that not more than 29 per cent. of the cases of acute tonsillitis can fairly be attributed in any way to the rheumatic poison, and more than half of these are very doubtful.

Third, among my patients only 19 per cent. gave a history of previous attacks of articular rheumatism, and 18 per cent. a history of muscular pains that they ascribed to rheumatism.

Fourth, 8 per cent. of the cases of acute tonsillitis were attended by or immediately followed by articular rheumatism; the same number claimed to have had muscular rheumatism, while in 5 per cent. the rheumatic attack immediately preceded the angina.

Fifth, there is not, as yet, sufficient evidence to prove that the tonsil is the only or even the chief portal of entrance for the rheumatic poison. Considering, however, that in all probability acute articular rheumatism represents a mild type of septic hematogenic infection of the joints, there is no reason why the tonsil with its notorious facility for infection with pyogenic germs should not, possibly even frequently, assume the rôle of an infected wound leading to septic consequences of a systemic nature. These septic conditions vary in degree and location, and rheumatism is perhaps one of the phenomena.

Sixth, the evidence does not yet justify the belief that inflammation of the tonsil may prevent (or take the place of) an attack of rheumatism.

Seventh, the statement that the acute beginning of muscular rheumatism is nearly always preceded by tonsillitis is not supported by the histories of my cases, in only 2 per cent. of which did muscular rheumatism follow tonsillitis. However, in 6 per cent. muscular pains that were called rheumatism attended the tonsillitis, though they may have been due to the fever attending the inflammation of the tonsils.

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TUBERCULAR INFECTIONS OF THE FAUCIAL TONSIL.*

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Tubercular infection of the tonsil is of frequent occurrence enough in this locality to command especial attention, as shown in the research of the author. In my report it was found that 8 per cent. of patients presenting for nose and throat symptoms exhibited primary tuberculosis of the faucial tonsil. It was further found that a large number of these patients exhibited lung tuberculosis as a direct infection from this gland through the lymphatic chains. The tonsil may become tuberculous in one of three ways.

First.—By infection from the presence of tubercular material in or about the tonsil from inoculation by the air, or from the food introduced into the mouth coming in contact with the tonsillar gland.

Second.—From blood infection, the original infection being introduced into the lung or intestinal tract.

Third.—From inoculation by sputum coughed up from a tubercular lung producing an inoculation on the surface membrane of the tonsil.

The first is a primary and the second and third are secondary infections.

The first interests us most, for with proper means we can avoid the occurrence of this disease by ablation of the gland. If we inoculate the tonsil with strong tubercular cultures we are able to produce this affection of the gland. We are aware that it is harder for an inoculation to take place on the surface membrane of the gland than in the crypt because of the thickness of the covering of the tonsil by squamous epithelium. The lining membrane of the crypts is much thinner, therefore a more favorable site for the infection to take place. This is borne out by observation.

In caseous tonsils we have crypts filled with cheesy material composed of epithelial cells and mixed substance containing numerous varieties of bacteria. The crypts most constant in filling with such material are those which have some obstruction to the opening. These we find in the upper part of the gland or in the supra-tonsillar fossa. This occurs constantly or at intervals and, the crypt being filled with material, is squeezed between the anterior and posterior pillars and the superior constrictor muscle of the pharynx at each act of swallowing. If the

* Read before the Joint Meeting of the Chicago Medical Society and Chicago Laryngological Society, March 21, 1907.

opening of the crypt is occluded or pressed upon, the material is pushed deeper into the crypt or out into the supra-tonsillar space along the line of least resistance. In this way the crypt extends deeper and becomes larger in size, so it is common to find them extending to the extreme periphery of the gland as far as the capsule. Here this material lies and decomposes, forming an auto-infection which occurs most frequently in the depth of the crypt. The lymph bodies then take up the tubercular infection. In examining hundreds of tonsil specimens it was found that solitary lymph bodies broke down with epithelioid degeneration and showed the presence of tubercular giant cells. The infection is taken up readily by the lymphatic glands, as was shown by tubercular infection of the cervical lymphatics before the infection in the tonsil had affected more than two or three lymph bodies surrounding the crypt. The tubercular change was never found to extend from one crypt to another. The lymphatic nodes infected from a crypt was limited to one trabecular area.

Infections other than tubercle are found and there is no rule by which the virulency of the infection could be gauged. Thus we may have an infection occurring over a long period of time, the lymphatics passing the infection to the blood without much enlargement of lymphatics. On the other hand, we may have an infection coming on suddenly and in greater quantity, which may produce a large amount of swelling of the lymphatics and still not much of the infection reach the general system. This is brought about by the destructive properties of the lymphatics to infective material. Often the infection thus introduced is explosive but not serious. In these cases the lymphatics in the neck become large, but disappear after the infecting bacteria are destroyed by phagocytosis in the glands affected.

The scope of this paper was not to extend beyond the tonsil, and in order to show the process of infection of the gland it is necessary to consider the process of entrance of infection, first into the crypt and then from the crypt into the tissue surrounding the same. The tonsil is a lymphatic gland lying in the tonsillar fossa. It does not usually occupy the entire space, there being a fossa above the tonsil called the supra-tonsillar space. This supra-tonsillar space varies in size according to the size of the gland. It is usually found as a conical or triangular cavity with the apex outward. It is bounded in front by the anterior pillar, behind by the posterior pillar, above by the junction of the two pillars, while the floor is formed by the top of the tonsil. Into this space empty the superior crypts of the tonsil. They vary in number, but four crypts are almost constant. They empty their contents into the supra-tonsillar fossa which communicates with the pharynx.

Very often the edge of the anterior pillar, which in fetal life extends backward more or less completely covering the tonsil, is persistent, and when so is known as the *plica tonsillaris*. This membrane varies greatly in its extent and likewise in its consistence. At times it is thin and web-like, while at other times it is a tough and thickened membrane which may or may not be attached to the gland itself or to the pillar behind. The presence of this membrane has much to do with the re-

tention of secretion in the supra-tonsillar fossa, and when it becomes swollen and indurated it can cause a complete closure of the supra-tonsillar space. This is especially true when the tonsil has hypertrophied in an upward direction.

It is common to observe tonsils which are so hypertrophied as to destroy this supra-tonsillar space by the extension of the tonsil upward and outward into the tissue of the soft palate. I have often observed tonsils which extended as far as the under surface of the Eustachian tube. Thus it will be understood that material in the crypts of the top of the tonsil, when squeezed by the action of the anterior and posterior pillars and the superior constrictor muscle of the pharynx, will find resistance at the mouth of the crypt and as a result of which the material will be pushed deeper into the crypt.

We, therefore, find these crypts extending to the external wall or capsule of the gland and filled with caseous material. This does not hold true of the crypts emptying directly into the throat from the fact that there is nothing to cover the openings of these and, too, because they empty downward and inward. When the patient swallows they are squeezed and the material contained in them is emptied into the throat. If, then, we have the superior crypts, or the four which empty into the supra-tonsillar fossa which were called by the author¹ "*the infecting crypts of the tonsils*," filled with caseous material which cannot escape, we have the focus for an infection. The lining membrane of the crypts becomes infected first in the deepest part, and we find the lymph nodes breaking down in this space. The infection as seen in the sections is less and less marked as you proceed from the deepest part of the crypt toward its opening.

I have seen no specimen where the infection from one trabecular area has affected a trabecular area adjoining. From these lymph nodes which break down into true tubercular areas showing the epithelioid tissue with giant cells, the infection is carried to the sub-maxillary gland first and from this gland to other glands of the cervical chain of lymphatics.

1. "Certain Facts Concerning Faucial Tonsils." JOURNAL A. M. A., Nov. 24, 1906, p. 1725.

House Bill No. 318, to place an osteopath on the State Board of Health, failed of passage in the house May 2. Another bill was designed to establish a standard for medical and osteopathic schools, to license osteopaths without examination, and confer on them "all the rights and privileges which physicians in the state now have." The State Board of Health was characterized as "an arrogant and arbitrary body having absolute power over the standards of medical schools." The bill met with the fate of several osteopathic bills introduced in the Illinois General Assembly since 1897.

THE TECHNIQUE EMPLOYED AND THE RESULTS OBTAINED IN A CASE OF ACNE VARIOLIFORMIS BY
THE WRIGHT VACCINATION METHOD.*

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CHICAGO.

REPORT OF CASE WITH OBSERVATIONS BY DR. EDWARD H. OCHSNER.

This patient, a young lady, 22 years of age, came under my care Nov. 2, 1906. Her family history is good. Personal history: has always been well, except that since her fourteenth year her chest, back, shoulders and outer aspect of arms have been densely studded with papules and comedones. There was no tendency to pustule formation, and about a year ago the disease had reached its maximum, when the face became involved. As the condition of the face became worse, the eruptions on the rest of the body gradually faded away.

The eruption on her face began as a small papule on the middle of the forehead in October, 1905. Patient scratched this with her finger nail, and a few days later a small pustule resulted which eventually dried up, leaving a crust. Two weeks later another papule appeared over right eyebrow and ran a similar course. These papules did not disappear entirely, but left a discolored area of thickened, indurated, slightly elevated skin. The following week the nose became reddened, swollen and indurated, but no papules developed. In July, 1906, pea- and bean-sized papular lesions developed on chin. These terminated in pustules, and the intervening skin assumed a dull crimson hue. In August, 1906, isolated papules and pustules appeared on middle of right cheek and later in front of left ear new papules and pustules began to crop out until the whole face was buried under these eruptions.

There were no subjective symptoms until about Oct. 1, 1906, after which time patient experienced a tingling sensation at the point where the pustules were about to appear. Face now became swollen, itchy and at times painful, and it would hurt her to smile, laugh or chew food, because the skin felt as if overstretched. There would be a slight exacerbation just prior to the menstrual period, followed by a slight remission.

The treatment which she had obtained, including dieting, seemed not to affect the condition in any way. Condition on admission, Nov. 2, 1906: Whole face has a violaceous discoloration, in some places dull, in others glistening, greasy. If patient sits in sun a few moments, small drops of oil appear on the face. Surface is uneven, because of the large and small papules, nodules, pustules and irregular projecting indurated

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masses of skin. These lesions are irregularly distributed over the entire face. The grayish-white pustules project high above the dull crimson background and are plainly visible at a considerable distance. The chin and nose have the greatest number of pustules. The induration on the cheeks is the most pronounced. In a few places the skin appears to be fully three-fourths of an inch thick, and upon opening a pustule over one of these greatly swollen areas fully a dram of thick, creamy pus was expressed. In numerous other places from ten to thirty minims were obtained, showing the presence of numerous subcutaneous abscesses. The eruption is quite strictly limited to the face and there is a fair line of demarcation between the diseased and healthy skin. The hair line limits



Figure 1.

the disease above, and this line continued extends down in front of the ears and follows the ramus, angle and lower border of the inferior maxillary bone to the chin. The surface temperature of the face is diminished. Patient complains of nose, hands and feet feeling cold. On puncturing a fairly mature papule a drop of clear, slightly viscid, serum-like fluid escapes. On puncturing a pustule a drop of grayish-white, creamy, purulent fluid escapes. Many of the ruptured pustules are covered with yellowish-brown, oily crusts.

After carefully examining the patient, it seemed to me that this would be an excellent case for the Wright vaccination treatment, first because Wright reports that some of his most gratifying results have occurred in cases of severe acne; second, because it would give us an excellent opportunity to test the correctness of his claims and to observe

the effect of this treatment from day to day because of the exposed location of the lesions, and, finally, because the treatment heretofore employed has at best been very tedious and often almost ineffectual. In view of this fact, I asked my associate, Dr. Abelman, who has been doing the technical part of this work for me for some time, to attempt the isolation of the infective agent and to make the vaccine. By what methods this has been accomplished and with what results you have heard and seen this evening.

The case has improved very greatly, as is readily seen by comparing the picture taken about four weeks after the treatment was begun, and when she had already improved somewhat, and the present condition, as



Figure 2.

illustrated by the patient herself. The pustules have entirely disappeared, the induration is greatly decreased, and if the present rate of improvement continues for a little while longer she will be entirely well shortly. The case has been one of unusual interest and has taught us many important points about the Wright vaccination treatment.

About fourteen years ago Unna and his assistants discovered a bacillus in comedones and acne pustules. He considered this organism the active agent in the production of acne, but, as he was not able to secure it in pure culture with any regularity, medical men have been unwilling to adopt his views, especially as Sabourand, Hodra and Gilchrist have had the same difficulty in getting pure cultures. Numerous methods were devised for overcoming this difficulty and securing the bacilli in pure

culture. Sabourand and Gilchrist, by their special methods, were more successful in accomplishing this than any of the others.

I think one of the most important things that the study of this case has taught us is the little point in technique which Dr. Abelnann has discovered by which he is able to secure a pure culture of the bacillus practically every time. This is doubly important because on the successful isolation of the particular pathogenic germ, which is the cause of the disease in question, depends very largely the success of the Wright vaccination treatment. It has also made clear to us why there has been so much confusion upon this subject. I believe it is largely because this bacteria assumes such different sizes, shapes and characteristics depending upon its age and the culture media upon which it has been grown. Among other things, its spore formation at certain stages of its development is apt to confuse the observer greatly. In this connection I should again like to call attention to the observation made by Dr. Abelnann, that the spores are extremely resistant to heat and some chemical germicides, and also to direct your attention again to the method which he has employed to get sterile vaccine without destroying its potency by too frequent, too prolonged or too vigorous heat sterilization.

The study of this case has again impressed upon me the fact that a mixed infection usually causes a very different clinical picture than is presented by the disease caused by either one of the infective agents acting independently, and I can not agree with Sabourand and the other observers that the cocci do not play any special rôle in this affection. I am led to disagree with them for three reasons: first, because as long as this patient was suffering only from the indurated lesion of the skin the affection was a rather mild one and not until July, 1906, when the mixed infection occurred, did it assume a real serious and disfiguring character; second, because she improved very greatly under the first vaccination made, which was very largely, and sometimes entirely, a staphylococcus vaccine, and, finally, because this position agrees with what we now know about other mixed infections. The medical profession are slowly learning, all too slowly I am sorry to say, that a mixed infection consisting of tuberculosis and a pyogenic micro-organism is usually a very serious affection, immeasurably more serious than either alone and presenting a clinical picture very different from that presented by cases suffering either from a simple tubercular infection or a simple pyogenic infection. We know, for instance, that ordinarily a simple infection with staphylococcus albus or aureus is a rather harmless affair and if properly treated rarely need cause death, while if this becomes secondarily infected with bacillus pyocyaneus, influenza bacillus, coli communis or streptococcus it is usually a very serious matter.

This case has impressed upon me very forcibly the necessity of carefully observing the opsonic index in every case treated by the Wright vaccination method. This is a point that Wright insists upon most emphatically, and I believe that, for the present at least and until we have other means of determining the exact dosage of the vaccine, no case should be treated without careful and repeated determination of the

opsonic index, more especially if the affection is a deep-seated one, so that the effect of the injection upon the diseased process can not be carefully watched and controlled.

In this case we gave an overdose of the vaccine three times. The first time this occurred the temperature rose slightly, but only one-tenth of a degree higher than it had been before the treatment was instituted. The second time the temperature did not go above 99.3. Each time there was some disturbance at the point of injection, but only slightly more pronounced than at other times when the dose was not excessive, showing that the temperature, pulse rate and local reaction at the point of vaccination are not sufficient guides to the size of the dose and to the frequency with which vaccination should be repeated. Each time when the dose was excessive the process immediately became worse, and had it not been on a visible portion of the body we would have had no knowledge of the fact that we had given an overdose had we not had the opsonic index to guide us. Each time the opsonic index dropped markedly, and I am sure that had we repeated these same large doses several times in quick succession serious damage would have resulted.

I, for one, am not willing to use the Wright vaccination treatment without the opsonic control and, for the present at least, am compelled to condemn such use unhesitatingly, because, so far as I know, there is no other way of telling whether the dose employed is going to be beneficial or harmful, and, above all things, we should be extremely cautious not to do anything which can be of serious harm to the patient and which may bring discredit upon this new and valuable therapeutic method.

THE TECHNIQUE EMPLOYED AND DESCRIPTION OF INFECTIVE AGENT BY
DR. H. W. ABELMANN.

Opsonism, the great light-throwing element on the question of immunity, is a subject of paramount interest in modern medicine. A brief review of the technique and paraphernalia employed in carrying out this work in this particular case will be of benefit.

THE TAKING OF OPSONIC INDEX.

One vol. of serum, one vol. of washed W. B. C. and one vol. of bacterial suspension thoroughly mixed and incubated for fifteen minutes at 37° C. will, on an average, we will say, show the capacity for one W. B. C. to ingest ten microbes in a normal group of individuals, where, on the other hand, the patient's blood subjected to identical procedures will present a lowered capacity, ingesting, say, five germs. The opsonic index of the patient would be .5. The blood is best obtained from finger or ear. The serum is obtained by allowing the blood to flow in a narrow calibered, short, U-shaped tube. It is then set aside to coagulate and later subjected to centrifugalization. The serum can now be withdrawn from both arms by means of capillary tubes. Sera of four or five individuals is necessary. The opsonic index varies both for staphylococcus and the bacillus.

The washed leucocytes are obtained by collecting about ten drops of blood into a small test tube in which we have a 1.5 per cent. sodium citrate solution in .85 sodium chlorid. This prevents the blood from coagulating, and when blood is centrifuged the erythrocytes will sediment first by virtue of their greater specific gravity and form a distinct red stratum. The leucocytes will form a thin scum, known as the cream, on top of the red layer. The clear supernatant fluid contains, besides the citrate solution, the blood serum. This fluid is pipetted off and is replaced by NaCl solution. The tube is shaken and again centrifuged and the same phenomena is recapitulated, giving us our layer of red cells and white cells. The white cells can now be taken up by a capillary pipette as washed leucocytes.

Bacterial Suspension.—A loop full of a twenty-four-hour culture is well stirred up in normal salt solution. If clumps persist same is centrifuged. The resultant opalescent fluid constitutes the bacterial emulsion. It should be made of moderate thickness. A scale of opalescence by which to judge the thickness can be made by having a series of tubes of a BaSO₄ solution of different concentrations.

Opsonizing pipettes are readily made from suitable calibered glass tubing heated in flame and drawn out to capillary dimensions of desired length. Incubator is kept at 37° C. Film preparations—smears—are made on glass slides and dried at ordinary room temperature. Staining is conveniently done with Wright's polychrome, which fixes and stains synchronously.

Microscopical Examination.—The bacteria in fifty typical polymorpho-nuclear neutrophils are enumerated and the average for one cell taken.

PREPARATION OF VACCINE.

Staphylococcus Vaccine.—Slant agar is inoculated from pus obtained from small whitish pustules. When growth is plentiful a small amount of normal NaCl solution is poured over some, the adherent portions are scraped off with platinum loop. An emulsion of bacteria is produced which is thoroughly agitated, then centrifugalized for one-half minute to get rid of clumps. The supernatant, opalescent fluid is pipetted off, the number of germs in the emulsion is estimated by comparing with R. B. C., so that one c.c. contains approximately 600,000,000 germs. The emulsion is then shaken up in 1 c.c. sterile spindles, both ends of which are sealed in flame. They are then deposited in water bath at 60° C. for 45 minutes. Culture media is inoculated to test sterility of vaccine prepared.

BACILLUS VACCINE.

Considerable difficulty was experienced in the preparation of this vaccine owing to the great resistance offered by the spores. The heat and time required to kill off the spores, even resorting to fractional sterilization, would destroy the chemical nature of the desired toxin, rendering vaccine incompatible for therapeutic use. This difficulty, however, was readily overcome when the phenomena of non-spore formation was observed in cultures that were grown at a temperature below 20° C., which

fact was immediately taken advantage of. Aside from this deviation in the preparation of the specific vaccine, the technique remains the same as for staphylococcus vaccine. In sterilizing this vaccine, subject it to water bath at 65° C. for forty-five minutes. Each c.c. contains approximately 400,000,000 germs.

Dosage.—Average dose of staphylococcus vaccine 300,000,000, given about once a week. Average dose of bacillus vaccine 200,000,000, given about once a week. Dose should be regulated by opsonic index. It is difficult to determine optimum dose and regulate frequency of same. Too large doses or doses administered too frequently will unduly prolong the negative phase, favor multiplication of bacteria and aggravation of local conditions. The subsequent accumulation of the index in the direction of positive phase will require considerable time to regain its former level. It is always best to begin with a small dose and work up.

CASE DESCRIPTION.

To get our bearings you will now have a brief description of the lesions of this interesting case of acne pustulosa, deeming it essential in the first place to show undoubted proof, from the bacteriological research carried out, of the etiology, being an exciting parasitic factor, active in the production of typical acne pathology and, secondly, for affording a clearer insight to the subsequent technique in obtaining the specific germ and the new phenomenal craze of opsono-therapy.

Patient entered hospital, face completely buried in acne lesions, countenance puffed and swollen, numerous, various sized, irregularly shaped nodules deck her brow, cheek, chin and nose. The dark, corrugated, reddish-brown, violaceous front on which are pitched little tents of whitish pustules densely situated, the large and small fluctuant subcutaneous abscesses rupturing spontaneously and the resulting communicating sinuses, which can be traced for some distance beneath the skin, discharging a purulent, at times a serous, fluid, desiccating *in situ* or trickling down the face, accumulating and forming yellow-gray crusts adhering with moderate tenacity, all contributing their share to complete disfigurement.

From this grave field of pathology we set out to cultivate and isolate the micro-organism from the various lesions.

First.—Smears from the small whitish pustules stained with Löffler's methylene-blue presents numerous pus cells with isolated scattered cocci. Bacilli rarely found and could never be cultivated.

Second.—Smears from subcutaneous abscesses show bacilli with moderate frequency and cocci less numerous. There was no difficulty in obtaining cultures of staph. albus and aureus and bacilli rarely thrived on culture media.

Third.—The dark-red nodules, new outcrops of which would occur over night, as an acute exacerbation of silent nodules, becoming acutely inflamed, slightly tender and painful, elevated and indurated, bleeding readily and freely on puncture, would after a day or two become less tense. The nodule, being softer in consistency, would elicit a sense of

pseudofluctuation, the subjective and objective symptoms coincidentally ameliorating. At this time, when the nodule is maturing, a sterile aspirating or hypodermic needle is taken in hand after the lesion and adjacent skin have been thoroughly sponged with 95 per cent. alcohol to remove all grease and oil, is introduced at the periphery at base of nodule, directing its course to its centrum. The piston is then withdrawn and pus will follow. When smears are prepared and examined from pus of this source, numerous bacilli and pus cells are seen, no cocci, and cultivation reveals within twenty-four hours a pure culture of bacilli. To obtain this parasitic organism subsequently to be described, the above procedure is absolutely essential for obtaining pure and active cultures.

Previous investigators have experienced much difficulty in obtaining the growth of the organism from nodules on ordinary culture media, difficulty in isolating and obtaining pure cultures of the bacillus. But when observing the above in technic there will be invariably gratifying results.

MORPHOLOGY OF BACILLUS VARIES.

First.—Varies as to source, whether they are found in an active or in a silent nodule or comedone.

Second.—It varies as to alteration in environment during cultivation.

A. Bacillus from active nodules may be demonstrated microscopically in pus by slide preparation made in the usual way and presents the following morphological appearance: Bacillus is 2 to 5 μ in length and .5 thick, usually straight cylindrical cells with rounded ends, stains readily with ordinary aniline dyes. The organism at times resembles very closely in morphology and staining reaction the colon bacillus and also approaches it in its biological peculiarities.

B. Bacillus found in the initial stage of an acute exacerbation of a silent nodule, which is aroused into activity within twelve hours manifest by pain, tenderness, hyperemia and swelling of the nodule, will exhibit atypical forms of this organism. This germ, having been lying dormant in the tissues, clothed in its silent robes, awakens to new life and activity wearing the colors of a vegetative germ and, although appearing few in number, small and atrophic amidst the colonies of spores and irregular forms, they increase in number and size until, on the second day or later, few of these forms are found, all having enlisted as active germs to battle with our opsonic index.

Cultures exposed to environmental changes frequently show plasmolytic vacuolation—show great variability in staining of different parts of the bacillary protoplasm.

A. Spores.—Under certain circumstances endogenous sporulation occurs. There are glistening oval areas with high indices of refraction appearing usually in the center of the bacterial cell, gradually increasing in size pursues the retreating protoplasm, which finally loses its staining capacity and ultimately disappears. Spores then lie free. Möller's method of staining spores gives us a beautiful picture of free and encapsulated forms colored red, while vegetative cell stains blue. The spores show a great capacity of resistance to heat and chemicals. Immersed in abso-

lute alcohol for four days does not devitalize them. They resist action of 5 per cent. carbolic for ten hours at 37° C. Growth on culture media impregnated with sulphur is considerably retarded. Spore formation does not occur below 20° C. Spores are non-motile.

B. Long thread-like filamentous forms of considerable length, without apparent segmentation, are frequently observed. Again we find forms which may be termed:

C. Involuted Forms.—The individual bacilli having undergone pathological changes and experienced a degeneration of its protoplasm with coincident distortion of its outlines, at times presenting branching forms.

D. Motility.—The bacillus is actively motile. A hanging drop shows organism passing quickly across the field, at times exhibiting a rapid, darting, sometimes a rotatory, motion. The filamentous forms often have an undulating or serpentine motion. Bacilli from old cultures, from silent nodules or comedones are less active, approaching the Brownian movement. Spores are non-motile.

E. When stained by Löffler's mordant method bacillus seems to possess very delicate locomotive organs. It is a flagellated organism of the peritrichic type, flagellæ being attached all along the sides and ends. There are about 14 to 20 in number, are shorter than those of typhoid bacilli and are quite wavy.

F. Bacillus does not decolorize by Gram.

G. Agglutination Test.—Agglutination was noticed in dilutions of 1-50 and 1-100. No agglutination was shown in blood from normal patients.

CULTURAL PECULIARITIES.

First, stroke culture on inclined agar presents in 48 hours a luxuriant whitish-gray growth, it has a tendency to spread over surface and has a moist, creamy appearance. Second, bouillon, 24-hour growth, shows a uniform turbidity with formation of sediment. Third, gelatin is not liquefied. Fourth, glucose agar shows no gas formation. Fifth, litmus milk shows, on second and fourth day, coagulation of casein which sedimentates, leaving a clear, supernatant, straw-colored fluid, slightly alkaline in reaction. Sixth, potato gives a dirty gray, moist, viscid-looking layer which has a tendency to spread. Seventh, bacillus also cultivated on blood serum and glycerin agar. Eighth, Durham's peptone solution gives no production of indol.

PATHOGENESIS.

The organism is pathogenic to mice and guinea-pigs. Intra-peritoneal inoculation of 3 minims of forty-eight-hour growth on agar (taking organisms that have been growing in water of condensation) kills white mouse in less than ten hours, and six minims taken from the same source kills guinea-pig in less than ten hours. At autopsy a large accumulation of clear peritoneal exudate presents in abdominal cavity, bowels distended with gas, peritonitis not present. The virulence as tested upon these animals was manifest in a comparatively short time

and the effects can be attributed to the toxic rather than the infective properties of the culture used.

Intravenous and intraperitoneal inoculation of an attenuated emulsion of bacteria in .85 salt solution into mouse and pigs. Mouse at end of second week ceases to be playful, looks sickly and dies ultimately of an apparently chronic form of infection. Autopsy reveals no macroscopical change except for a dark-purplish discoloration of the intestines. Pure cultures of the bacillus were obtained on agar slants from the peritoneal, pleural and pericardiac sacs, respectively. The pigs that received inoculation are still alive and apparently in good health, twenty-six days after inoculation.

THERAPY.

We have now lightly covered the ground as to technique involved in carrying out our work, pictured to you the pathology of this case of acne pustulosa and dwelt on the morphology and significance of a specific microbe. Now we are in a position to sidetrack your attention for a moment on the subject of opsonin in relation to these micro-organisms and to establish a working basis on which to build and apply our knowledge of opsono-therapy.

When we apply these bacteria to the opsonic test, we find that the bacilli, as well as the cocci, are subject to phagocytosis and bear a distinct relation to the opsonic content of the blood. Patient's blood is capable of destroying less organisms than an apparent healthy group of individuals. The opsonic content of the blood can be raised by repeated injection administration of specific vaccine at periods as registered by the opsonic index. The improvement which follows administration of suitable doses corresponds to the raise in index. The setback which follows an overdose is synchronous to fall in content with an accompanying increase of leucocytosis.

The first vaccine prepared for therapeutic use constituted an emulsion of dead staphylococci with a few accidental bacilli, to which at this time no significance was attached.

THERAPEUTIC RESULTS FROM FIRST VACCINE.

Examination of blood on Nov. 16, 1906, showed an index of .84 and a leucocytosis of 15,000. With the first inoculation of 300,000,000 there is a fall of the index to .55 and an increase of leucocytosis to 18,000. With this fall in content there is a mild aggravation of the condition for a few days, then a distinct improvement ensues. Face appears less swollen, feels less tense, inflammation is less marked, pustules although fairly numerous do not reach the stage of maturity as formerly and clear up in a shorter time. Blood examination on November 21 gives an index of 1.10 and a leucocytosis of 16,000; 600,000,000 is administered. The clinical picture following this dose remained stationary, there was no sign of improvement, nor was there any evidence of the condition becoming worse. On November 30, 900,000,000 was given. Marked local reaction followed. There was a rise in temperature. The next blood examination

gives a low index, .45. There is an increased leucocytosis to 18,500. Following this large dose the condition promptly grew worse, so that on about the fourth day after inoculation the retrograde changes had reached a point where the description of the condition was identical with that pictured on patient's admission to hospital. The disease progresses, many papules are transformed into massive nodules, pustules converted into abscesses. Inflammation reaches its climax and the face is trickling with pus. There are new outcrops of pustules and nodules on the neck, a fresh eruption of pimples on back, shoulders and arms. The index remains low for a week, then gradually rises and with it the inflammatory condition slowly subsides. On December 13 the index reads 1.02, leucocytosis falls to 15,000. Pustules have decreased in number. Face is becoming clearer.

Opsonic index of serum which exudes from a punctured nodule or pustule reads .98, while index of blood taken from finger reads 1.12. This shows that the opsonin has been taken up by the bacteria and con-

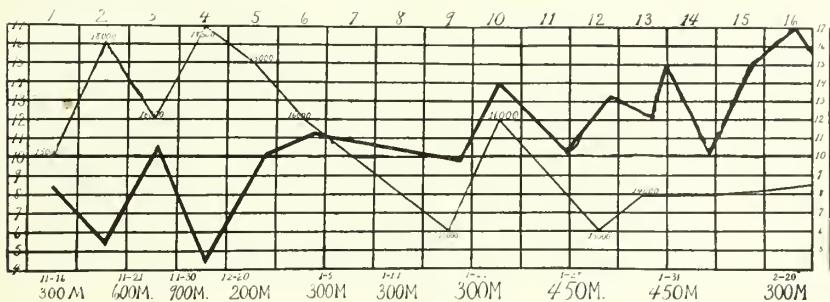


Figure 3.

stitutes a region of low bacterio-tropic pressure. But we will note that this low index reads higher than index of blood serum obtained from finger at patient's admission to hospital.

On December 20, 200,000,000 was given. The following two weeks index floats above normal line, conditions slowly improving, leucocytosis of 13,000. On January 5, 300,000,000, and on January 11 same dose repeated. Index running as high as 1.5. The dosing on January 28, 300,000,000, and January 31, 450,000,000, follow each other at short intervals and there is a consequent fall in index to 1.01 on February 9, with coincident new pustule formation and an exacerbation of local manifestations.

Second vaccine constitutes an emulsion of dead staphylococcus aureus. Results—February 20, 300,000,000 is given. Four days later index reaches 1.4, and on the 27th its highest point, 1.6. Since this time index fluctuates between 1.4 and normal. The pustules greatly decreased in number the following week, and the next two weeks no pustules appeared, except an occasional one springing up here and there. Face has remarkably improved, there are areas of clear skin appearing. Inflammation had all subsided, except for reddish indurated nodules persisting, coming and going; leucocytosis remains high, 13,500.

Third Vaccine.—Bacillus vaccine constitutes an emulsion of the bacil-

lus. It was not until after several weeks of experimentation and study and with developing technique that the significance of the bacillus attracted our attention and aroused interest, inviting us to further research. The pus infection having cleared up under vaccine therapy, there still remained to be treated the acne with its red indurated nodules and with its comedones appearing and vanishing, accounting for the remaining leucocytosis of 13,500.

Results on February 24: For the first time the opsonic index for the bacillus was determined and read .4. One hundred million was given. The index on the 27th reached .6, and on the following day patient received an inoculation of 200,000,000. On March 1 index stands at .73, condition constantly improving. It was at this time that patient looked her best. March 5 index read .4. The next day 400,000,000 was administered. Marked local reaction ensues, clearing up after five days. Index

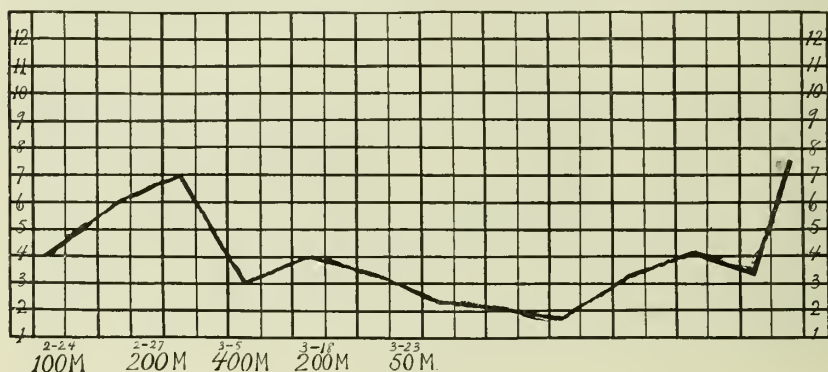


Figure 4.

gradually falls on the 13th, is as low as .17, typical acne nodules spring on face, new ones on back, one nodule appearing on forearm just above wrist, in a region foreign to the usual seat of acne lesions. No pustules ever occur. By the 18th the index is .37, acne lesions vanishing, face again clearing. On the 19th, 100,000,000 is given. Index on 20th reads .35, on the 22d is .77 and on the 26th .802.

The index is now on the incline and immunity well on the way to drive out the invader, and we shall endeavor to accompany it step by step with our opsonic index and come out victorious, with our patient cured in a manner fashioned after the cures of the ablest—*Vis medicatrix naturæ*.

ABORTION.*

H. A. PATTISON, M.D.

BENLD, ILL.

When I received notice that I was expected to prepare a paper for this meeting of the Macoupin County Society, I immediately determined to

* Read at the annual meeting of the Macoupin County Medical Society, April 25, 1907.

present the subject of abortion, which, because of my personal observation and the testimony of my fellow-practitioner, I am convinced is of very prevalent occurrence. And because of certain psychical, physical and moral factors I am firmly convinced that this subject is of far-reaching importance to our profession and more particularly to society at large.

Abortion may be defined as the expulsion of the product of conception from the uterus before the fifth month. I shall make only rapid reference to the causes of abortion. They are constitutional, acting through the blood or nervous system of the mother, or fetal or uterine. Among those disorders of the maternal organisms may be mentioned the exanthemata, the presence in the blood of carbonic acid gas and sometimes malarial poison. Chorea generally results in abortion, as does also tetanus. Traumatism and shock frequently bring about abortion. About a year ago I was hurriedly called to see a woman who had fallen from a wagon and struck on the back of her neck and shoulders. She lay quietly on a mattress when I reached her, and was suffering from what seemed to be only a moderate degree of shock. No bones were broken. As reaction set in she became very talkative, then delirious. I returned early the following morning to catheterize the patient. Only two or three ounces of urine could be withdrawn, indicating suspension of kidney activity. Abortion was then in progress, edema of the lungs had set in, the temperature was 107 degrees. The woman died shortly after; that is, about twenty-four hours after the accident. Fright is occasionally a reflex cause of abortion, causing hemorrhage between the fetal and maternal layers of the placenta. Drugs and excessive purgatives are other causes of abortion. Anything which causes death of the fetus, such as syphilis, twisting of the cord or the placental apoplexy already mentioned, will end in abortion. Among the uterine causes are retroflexion, neoplasms and lacerations of the cervix.

There are two classes of abortion—accidental and artificial. The former embraces those cases which take place without the connivance of anyone, and the latter those cases due to interference by some person, either the woman herself, a midwife, or a physician. This latter class may be again divided into two classes—first, those cases which after careful consideration and in consultation with the highest medical authority available, the physician, relying upon his best judgment, deems necessary for the preservation of the woman's life. My first thought was to say "the preservation of life and health." I dare not make the class of cases as broad as that.

It is coming to be questioned most strongly whether the physician has even this right. As I shall emphasize later, the embryo from its very first conception is a living thing, capable of development into a perfect human being, and some thoughtful minds question the right of the physician to decide that the life of the mother is more valuable than the life of the fetus, and upon this decision decree the death of an unborn child. I have not yet reached any personal convictions upon this point, but I believe we shall be compelled to admit that the doctrine of the

Roman Catholic Church, that no form of induced abortion is legitimate, is indisputable from the legal as well as the moral standpoint. But, whatever may be the final word upon the subject, the number of cases of this kind is growing less because the indications for interference are being narrowed down. Improved methods of rectal alimentation and Cæsarian section, made so safe by modern surgery, require that the conscientious physician will now consent to the induction of abortion only for certain cases of nephritis and cardiac insufficiency and such neoplasms as would almost surely cause the death of the fetus before certain viability.

The second division of artificial abortions is that class of cases upon which abortion is induced in response to the desire of a woman to escape the sufferings incident to childbirth and the responsibilities and cares of motherhood, or to escape the consequences of indiscretion. It is to this class of criminal abortions that I desire to direct special attention.

The human being at the age of 30 to 50 years has reached his highest point of efficiency in all the varied demands of his complex existence. At this age he is most capable of obeying fully that first law of life, self-preservation. His mind is matured, his judgment keenest, his physical power greatest. He is then best able to ward off all the forces which tend toward death. At 20 his physical strength may be as great, but his judgment does not keep him from placing himself among conditions of physical and moral danger. Each preceding year the individual, as the youth, the child, the infant, is less and less able to care for and protect himself. Yet even as a new-born infant he is capable of crying out in distress, of moving his limbs to ward off approaching danger, real or imaginary.

Finally, the infant as yet unborn, lying in its mother's womb, is absolutely helpless, unable to protect itself, yet having within itself all the potentialities of manhood or womanhood. Lying thus so helpless, it is surrounded by other protection outside itself greater than the protection afforded in its mother's arms. The amniotic membrane and its contained liquid to lessen friction and jarring, the thick, strong uterine walls, the firm pelvic muscles, fasciæ and bones, all unite to safeguard the embryo. Through all this fortification there is but one avenue of assault—the tiny opening into the uterus. Can anything be meaner, more contemptible or more cowardly than to take advantage of this one weak point in the defenses of the helpless infant? Nor can we accept in excuse the belief prevalent among the laity that there is any essential difference in the destruction of the embryo either before or after quickening, either before or after birth. There is scientific foundation for the belief that many, if not all, educated physicians of to-day hold, viz., that a life begins with the impregnation of the ovum and its attachment to the uterine wall.

The eye is not delicately enough adjusted to discern germ life, and only recently has the microscope made the science of bacteriology a possibility, yet during all the centuries the life was there. It is claimed by some philosophers that if our ears were finely enough attuned we could

actually hear the harmonies of the planets. About the middle of the fifth month of gestation the mother experiences the slightest sensation of quivering, the first perceptible sign of life in the embryo. If her nervous organization were finer, the sign would be felt earlier. Might she not even feel and know that cell division in the ovum was in progress? Karyokinesis is a life process, and the impregnated cell, having attached itself to the uterine wall and begun dividing and subdividing, is a living thing with all potentialities of an adult human being. To destroy it is a crime against life and against society.

Let me prove this by a single illustration. Many years ago there lived in a log cabin in Kentucky an obscure family named Lincoln. The mother of this family had many duties and cares. At a certain time she became pregnant. Suppose that for some reason she felt it too much to go through the long period of gestation, the perils of maternity, and the cares of motherhood, and had submitted to an abortion. Abraham Lincoln would never have been born, and that obscure woman would have committed the greatest crime ever perpetrated against this republic. Some writer of the seventeenth century said: "It is a thing deserving all hate and detestation that a man in his very original, while he is framed, while he is enlived, should be put to death under the very hands and in the shop of Nature." An alarming percentage of these criminal abortions occur among our own American women. These women are intelligent, educated. They are kind, thoughtful, unselfish. They will protect a child or an animal. They are never cruel. Yet they will murder or permit to be murdered the child *in utero*. It is because they do not realize the enormity of their wickedness. They must be taught. It is largely through the family physician that this instruction must come. The teaching will often fail to produce immediate results. A single success is worth the required patience.

During the first months of my practice a young woman, recently married, came to me with a request that I terminate a pregnancy. After pointing out the dangers and the moral factors involved, I told her I hoped she would call upon me again in about seven months, when I would gladly help her. I forgot the incident. Some months after, I received a note from a woman in a neighboring town, asking me to attend her in confinement. When I called upon her, her face seemed familiar and I finally recalled her previous visit to my office. I had the satisfaction of delivering a large healthy boy of whom his parents are justly proud.

A young married woman of culture and refinement suggested to me that in all cases of criminal abortion where the fetus is large enough to show the form of the child it should be shown to the mother who permitted the crime. This, my friend believes, would serve to deter the woman from committing the same crime again. There appeared in *The Journal* of the American Medical Association an exceedingly well-written paper on "The Physiologic and Legal Status of the Fetus *in Utero*." The author urges a change of nomenclature, so that we shall say a child is "born" at the time of conception and is "delivered" when it is separated from the mother and begins an independent existence.

Returning now to the general consideration of the subject of abortion, let us note some of the possible complications and sequelæ. The immediate danger is hemorrhage. A little later absorptive fever or septic fever may occur. Inflammatory complications, such as peritonitis, cellulitis, ovaritis and metritis may add their quota to the gravity of the situation. Among other complications which have been known to occur are embolism, tetanus, uterine hydatids and melancholia. The dangers in accidental abortions are slight as compared to criminal abortion. In the former the product of conception is generally thrown off complete. The hemorrhage may be profuse for a short period, but ceases as soon as the uterus empties itself. On the other hand, in criminal abortion, the membranes are usually ruptured and only the fetus expelled, the retained portion remaining a source of great danger.

When called to attend a case of abortion it is necessary to determine whether abortion is threatened or is in progress or has taken place. It often requires nicety of judgment to decide whether effort should be made to prevent or to facilitate the process. The essential symptoms of threatened abortion are hemorrhage, pain in the back and lower abdomen and vomiting. Abortion will sometimes take place with scarcely a symptom beyond a sharp onset of abdominal pain and a few gushes of blood. Generally speaking, no amount of pain or hemorrhage should be taken as evidence that the use of preventive measures is hopeless, but if the os is dilated to admit the finger so you can touch the fetal ball it is useless to waste time with preventive measures. If, however, it is possible to learn that an instrument has been thrust into the uterus and the pains and hemorrhages are a sequel to such interference, it may be pretty safely assumed that abortion is inevitable, whatever the amount of dilation. It is sometimes absolutely necessary to know whether the case in hand is an accidental or artificial abortion. Women will often deceive to the point of death, but adroit questioning and explanation about the possibilities of septicemia will generally bring out the truth. Whether the abortion is accidental or artificial, the physician when called is expected to and should render all services to restore conditions to the normal. Very frequently to the young and not altogether infrequently to the older practitioner the indications for treatment are somewhat hazy. This is because there is such a wide difference of opinion among those whom we expect should know—between those, on the one hand, who believe that the attitude of the attendant should be entirely passive and expectant, and, on the other hand, those who advise active intervention.

If abortion is threatened, the first and most important indication is absolute rest in bed. As abortion often occurs coincidentally with the menstrual period, it may be well in some cases to have the patient remain in bed several days each month. Absolute rest includes a quiet mind and nervous system as well as recumbent position of the body. Light should be excluded from the room. Neighbors and children in the family should be excluded. Bromids and opium may be administered in the dosage the individual case seems to require. If the patient is bleeding freely, a tampon may be carefully applied for twenty-four hours, though

there is danger that it may bring about the very result we are trying to prevent. The application of heat to the spinal column at the junction of the dorsal and lumbar regions is said to be a trustworthy preventive measure. *Viburnum prunifolium* continues to stand in high favor. I have tried several methods of administration and find that equal parts of the fluid extract with compound elixir of taraxacum is a pleasant combination. One dram of the mixture to be given every three hours.

As regards all local treatment in abortion, I would emphasize, first of all, the necessity of strict antiseptic precautions. The external genitalia and the thighs should be washed with soap and water by the attendant and then with bichlorid of mercury (solution 1 to 2000) or lysol, 1 per cent. solution, by the physician. The vagina should receive the same treatment. Surgical cleanliness of the hands by any approved method and sterilized instruments are imperative if we would avoid danger of septic infection. If the os is fully dilated to the diameter of the fetal ball, a full dose of ergot may be all that is necessary. The uterine contractions will empty the uterus and hemorrhage will cease, provided all of the product of conception is expelled. It is not necessary nor expedient to relieve the pains any more than at full-term labor. If the os is only partially dilated, my method is to pack the cervix firmly with a sterilized bandage. This can be accomplished without rupturing the membranes if force is not used. I then pack the vagina with cotton pledgets, wrung out in 1 to 2 per cent. lysol solution. Thirty minims of ergot are given every three hours. The packing is removed in twenty-four hours, when the os will be found dilated, and often the embryo is found in the packing. If the embryo is still in the uterus, the hand is inserted into the vagina and the index finger passed through the cervix. With the other hand making counter pressure over the abdomen, the uterus is cleared. Many physicians use the well-known St. Cyr spiral curettes. My experience with them is so limited that I can speak neither for nor against their use. I am satisfied, however, that the index finger with its tactile sense is a surer method of clearing away all debris. The gynecologist is urging the very limited practice of curettement by the general practitioner. Surrounded by the "glittering paraphernalia of the modern hospital," he has a wholesome respect for the principles of antisepsis and a fear of the lack of aseptic conditions in homes as well as a fear (not altogether ungrounded) that the country doctor does not pay due regard to such principles. It is also true that the uterus has been punctured with a resultant peritonitis or the prolapse of a loop of intestine, and true that the uterine walls have been scraped too deeply with resultant atresia. But evidence of putrefaction within the uterus or septic infection or continuous hemorrhage certainly indicates the need of immediate curettage. And why should not the family physician perform this operation?

I am indebted to Prof. James B. De Lee for two very simple rules of procedure which make this operation safe. Having anesthetized the patient and taken all steps to secure surgical cleanliness, the cervix is grasped by a volsellum forceps and drawn down and steadied. If not

sufficiently dilated, the Goodell dilator will in a few minutes open the cervical canal enough to pass the curette. This instrument is passed into the uterus until the fundus is reached. A uterine sound may be used first to determine the depth of the cavity. Having reached the fundus, the curette is drawn firmly outward over the membrane, clearing everything in its way. It is again passed back to the fundus and again drawn forward either to the left or right of the first path, and so on until every portion of the uterine wall is scraped. When healthy tissue is reached by the edge of the curette it will be known by the scraping sound made on the firm uterine tissue. Once heard, the sound is unmistakable and indicates that the curette has done all it should do in that region. With these two points in mind, as suggested by Prof. De Lee, viz., always scraping toward the external os (never backward and forward) and always ceasing to scrape when healthy tissue is reached, curettement is a safe operation. The curettement completed, the uterus may be douched with a weak solution of tincture of iodine in water or 1-6000 bichlorid solution, followed by normal saline solution. Ten days in bed and a daily hot vaginal douche are all the after-treatment that is usually required.

I have endeavored to present briefly these facts in connection with the subject of abortion, gleaned from my study, observation and experience. They may or may not contain any new suggestions which will prove helpful. But, however that may be, in conclusion let me make this one plea, viz., that we, as physicians, use all the influence we have in the community in which we live to bring people to a realization of the true seriousness of this hidden crime, and thus to help blot out an all too prevalent and pernicious practice.

AFFECTIONS OF THE EYE IN GASTROINTESTINAL DISORDERS.*

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CHICAGO.

The fact that there is no direct connection between the component parts of the ocular apparatus and the various organs and tissues of the alimentary tract probably accounts for the comparative rarity of organic lesions or functional disturbances of the eye produced by derangements of the stomach and bowels. Nevertheless, the indirect or contributive effects of certain digestive disorders upon the eye are not only well known and fairly well defined, but are often of serious moment.

The best instance of ocular disease as a result of stomache derangement is the production of various forms of amblyopia from chronic gastric catarrh—using the latter term to include a number of different lesions of the stomach walls. Probably this form of dyspepsia is always contributive in character; that is to say, the agent that affects the ocular

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apparatus acts only in the presence of a more or less chronic catarrhal gastritis. A well-known example of such a condition is tobacco or alcoholic amblyopia. This disease produces a hyperplasia of the connective elements of the optic nerve—a sort of cirrhosis of the nervous tissues. Pressure is thus brought to bear upon the axis cylinders and incomplete blindness results. So far as we know, this form of amblyopia does not occur unless a chronic gastritis be present. This contention might be carried still farther, and it might be rightly claimed that the lesion of the optic nerve does not improve and the eyesight does not return until the gastrointestinal disorder improves or is cured; indeed, successful treatment of this form of amblyopia is directed not so much to the optic lesion as to the gastrointestinal disease.

The foregoing illustration of what commonly occurs in stomachic diseases that affect the eyes explains another, more serious, although not so common example of ocular infection dependent upon gastric disorders. There is a form of optic nerve atrophy which commonly ends in blindness, despite all treatment. Its causation is often obscure and is not explained by the presence of syphilis, rheumatism, traumatism, cerebral affections, spinal disease or of any of the ordinary causes of optic nerve atrophy. For many years a number of observers have suspected that this form of progressive blindness is occasionally due to the circulation in the blood of certain toxins due to imperfect or vicious metabolism. It was believed that the lesions in the nerve are explained in pretty much the same way that one explains other forms of toxic amblyopia. I mention this matter chiefly to draw your attention to the fact that Dr. Fenton B. Turek's experiments upon dogs probably furnished the first demonstration of the truth of this teaching. He found that the injection into the canine circulation of toxic agents separated from the stomach contents of certain human subjects produces blindness in these lower animals. I was very much interested in this discovery when it was first brought to my attention by Dr. Turek, and, so far as was possible at the time, we endeavored to isolate the complex organic poisons that seemed most likely to bring about the amanrosis. I regret to say that we were unable to isolate them at that time. Later de Schweinitz, of Philadelphia, made a number of experiments in the same direction, and was more fortunate in identifying at least two of these toxins. I feel assured that some time in the future we shall know more about these forms of optic disease of intestinal origin, particularly those toxic forms that are followed by slow but progressive blindness, and will be able to exhibit effective because rational treatment.

A long continued anemia from profuse diarrhea or other intestinal disorders that rob the blood of important constituents commonly affect the optic nerve as well as other parts of the visual organ. Particularly in childhood do we find xerosis of the conjunctiva and cornea, as well as some forms of infectious keratitis, sometimes ending in corneal ulcer and blindness, due to these causes. Sudden blindness with complete atrophy of the optic nerve also occurs now and then, after intestinal bleedings and serious diarrheas. Of course, this may be regarded as a mere

incident, so far as the intestinal tract is concerned, because we know that sudden loss of blood from any portion of the body may bring about a partial or complete amaurosis, a subsequent examination of the ophthalmoscope showing the optic nerve to be white and atrophic. That is to say, not only may hemorrhoidal, intestinal and gastric bleeding (from whatever cause) produce blindness, but extensive loss of blood from the uterus, bladder, nose or any other organ may produce the same result.

If one were to refer to disordered functions of the intestinal tract some or all of the various forms of diabetes, then we have a condition that is particularly fruitful of eye changes. We know that the interference with nutrition of the lens in diabetes is a frequent cause of cataract, not to mention that form of inflammation of the retina and optic nerve that so closely resembles albuminuric retinitis. In addition to these conditions, iritis, iridocyclitis, chorioiditis and changes in the vitreous are also seen as a result of glycosuria in its various forms.

In conclusion, let me draw your attention to a functional disorder of the focussing apparatus—a weakness of accommodation—that may arise in conjunction with almost every form of so-called “indigestion.” The patient finds, even with the best glasses he can obtain, that there is a blurring of the print, fatigue of the eyes, headache and all the other sequels of eye-strain. In a proportion of such cases the symptoms disappear only when some one of the numerous forms of dyspepsia has been discovered and successfully treated.

As was long ago pointed out, defects in the extrinsic eye muscles, in other words, deficiencies in the balance of the external eye muscles, disappear, often without further treatment, after accompanying stomachic disorders disappear. I suspect that the efficacy of large or increasing doses of tincture of nux vomica (very commonly and very properly administered as an adjunct to other eye treatment) is mainly due to their action upon the gastrointestinal tract.

METABOLISM AS AFFECTED BY DISORDERS OF THE STOMACH AND INTESTINES.*

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“The members of the body rebelled against the Belly and said, ‘Why should we be perpetually engaged in administering to your wants, while you do nothing but take your rest and enjoy yourself in luxury and self-indulgence?’ The members carried out their resolve and refused their assistance to the Belly. The whole body quickly became debilitated, and the hands, feet, mouth and eyes, when too late, repented of their folly.” (Æsop.)

According to Voit, the unknown causes of metabolism are found in the cells of the organism. If we consider metabolism in a general sense, in contradistinction to special metabolism, to be the sum total of the chemical changes, which materials undergo under the influence of living cells, we readily see that all of the processes which take place within

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the body from the time food is digested and absorbed until the waste products are ready for excretion are embraced in the term. In my section of this symposium we must necessarily include the general metabolism of food products, as well as their special metabolism under the influence of the body cells, in so far as this latter process is affected by the abnormalities in the functions of the gastrointestinal tract. Likewise I must discuss, in a general way, the abnormalities of the digestive processes themselves.

It may be stated, at the outset, that metabolism, both general and special, may be affected by disturbances in the secretory and motor functions of the stomach and intestines; while abnormal processes of decomposition may lead to certain disorders, chiefly through the influence of absorption of unusual products. Moreover, we find that disturbances in the excretory activity of the bowel often cause marked changes in the normal metabolism of the body. While the disturbances in the stomach affect, directly, the activities of the intestines, and while the effects of abnormal action of the bowels are more marked, as regards the general metabolism, than are those of the stomach, yet we will discuss these various points separately in order to show the dependence of metabolism on each as well as the inter-dependence of one upon the other.

INFLUENCE OF GASTRIC DISORDERS.

1. *Disturbances of Secretory Activity.*—As is well known, the normal euclorhydria of the gastric juice may be replaced by an anaclorhydria, a hypoclorhydria or a hyperclorhydria. As a rule parallel changes in the secretion of the specific ferments of the juice are observed, so that usually we have a hypoacidity associated with a hypochylia, an anacidity with an achylia, etc. This is not necessarily constant, as Troller has shown, and may even give way to reverse conditions. In some cases, as is known, the acidity of the juice is normal, but a hypoclorhydria or even an anaclorhydria obtains. It is not my purpose to discuss these points, as far as their development is concerned, but rather to show the influence of such changes on the metabolism, both general and special.

According to Ogata and Filippi, the removal of the stomach has no influence upon the absorption of food or upon the general metabolism. Schlatter and Hofmann report a case of an old woman who showed, after complete extirpation of the stomach, a normal utilization of food and, moreover, gained 4.4 kg. in weight in two months. As a general rule it may be said that anomalies of the secretory activity of the stomach have no influence on general metabolism, providing these disturbances are not complicated by motor disturbances of the stomach or resorptive disorders of the bowel.

It must be remembered that the acidity of the gastric juice is of importance both from the standpoint of digestion and also from that of its influence on the motility of the stomach. The disturbance of digestion has reference, almost exclusively, to the handling of the proteids and may be so great that no digestion at all takes place. In cases of an- or hypoacidity no abnormality in the activity of the digestive

juices of the bowel will be observed beyond the absolute inability of the bowel to digest the connective tissue of raw or of smoked meat. The absorption of digestion products from the stomach being very small, no disturbance of metabolism or of nutrition will result from uncomplicated conditions of this sort. It is a matter of daily observation that patients with absolute achylia and anacidity are usually in a well-nourished condition and remain so, providing no complication of the motor function ensues.

In cases of hyperacidity we find that the utilization of food is normal, provided the food passes into the bowel at normal periods and that the intestinal functions are normal. This former point is of importance because hyperacidity easily causes a cramp of the pylorus and hence prevents the passage of food into the bowel. Hyperacidity may also influence the food intake owing to the loss of appetite in such cases. These patients may show conditions of anemia or of undernourishment as a result rather of the deficient caloric value of the food than of the influence of hyperacidity on the general metabolism.

2. *Disturbances of Motility*.—Of the three forms of motor derangement, vomiting, hyper- and hypo-motility, the first and last forms are the more important, as excessive motility will have no influence on digestion and absorption in the bowel, beyond the point of accumulation of digestive products and a consequent secondary action on the rate of enteric hydrolysis. This condition may lead to slight loss in caloric value by way of the feces, but is not of sufficient importance to warrant a more extensive discussion. It is quite evident that in those conditions, associated with constant vomiting, the food intake is much lessened, at least as far as its utilization is concerned. As a result conditions of under-nutrition easily follow. Such instances are seen in the gastric crises of various diseases, hyperemesis gravidarum, etc.

In those conditions, associated with spasm of the pylorus, whether due to malignant or benign growths, or as a result of pure hyperacidity, the food remains in the stomach an undue length of time. The products of digestion do not pass in sufficient amounts into the bowel and, as the absorption in the stomach is almost *nil*, the food value of the intake is about as great as if food had not been taken. This condition leads to stagnation of food, dilatation of the stomach, resulting in vomiting and complete loss of nourishment, along with a consequent loss in weight, which is slow in developing but may reach extreme grades. The metabolism in under-nutrition is too extensive to discuss at this point, hence I can do no more than say that inanition, with all of its sequela, is present.

3. *Decomposition Processes in the Stomach*.—Normally no decomposition processes are observed in the stomach. Motor insufficiency is the chief cause of abnormal decomposition. These processes affect the carbohydrates and proteids and not the fats, at least the latter to a very slight extent. In the abnormal decomposition of carbohydrates, due to stagnation of food in the stomach and secondary bacterial action, we have lactic acid fermentation, butyric acid fermentation, acetic acid

fermentation and alcoholic fermentation. All of these conditions give rise to chemical changes in the composition of the gastric contents and may, by pressure effects, bring about general changes which may temporarily influence the metabolism. In the proteid decomposition we find, as abnormal products, ammonia, hydrogen-sulphide, indol, acetone, etc.

The influence of the chemical processes in the stomach is more a qualitative one than any specific change. In cases of hyperacidity with stagnation we observe alcoholic and acetic acid fermentation, while in hypoacidity with dilatation we find lactic and butyric acid fermentations. These rules suffer many exceptions, the different fermentations appearing without reference to the amount of acid. The proteid putrefaction usually associates itself with the fermentation of carbohydrates, but the latter is usually predominant. There is no fixed rule as to the substance to be produced by the different bacterial processes. All those researches, intended to show that a special form of decomposition is characteristic for a certain clinical entity, have proven worthless. Thus the appearance of lactic acid, to the exclusion of HCl, has been supposed to be an early sign of carcinoma of the stomach, but this is right only in so far as the combination of motor and secretory insufficiency, which leads to this condition of chemical composition of the juice, is usually an early condition in carcinoma, but may obtain in other states (Schmidt).

The amount of carbohydrate and proteid which is lost to the body by these decomposition processes in the stomach is too slight to affect the general nutrition, but we may have, as a direct result of such disturbances, marked changes in the activity of the stomach and, secondarily, of the bowel. While these processes are originally made possible by disturbances in the secretory and motor activity of the stomach, these latter processes are, in turn, affected by these same conditions which they themselves have brought about. Such a combination leads to a condition of under-nutrition, with resulting cachexia, but such is not due to the sole effect of the decomposition processes.

I can not go into a discussion of the influence of such disturbances upon the secretory and motor activity of the stomach or of the incidental result of their presence on the activity of the bowel. I must also leave undiscussed the effect of disturbances of secretion and of motility of the stomach on the activity of the bowel. We all are familiar with the so-called gastrogenous diarrhea, as a result of diminished acidity of the gastric juice and especially of achylia, while the gastrogenous constipation is a result of hyperacidity. Moreover, we must remember that a hyperacidity retards the passage of chyme into the duodenum and also, according to Pawlow, that a condition of hyperacidity calls forth an increased pancreatic excretion and a hypoacidity a lessened excretion of this juice owing to the direct stimulation of the pancreas by HCl. We see, then, that the general and special metabolism is most affected by disturbances in the motor functions of the stomach. This condition is, in its place, brought about by abnormal secretory activity, which may

lead to decomposition processes. Thus the combination of conditions leads only to a condition of inanition, whose metabolism is well known. Were the stomach capable of greater absorptive powers we would find the disturbances mentioned leading to a more varied metabolic picture.

INFLUENCE OF INTESTINAL DISORDERS.

We must remember, in this connection, that the intestines are capable of digesting all the constituents of food, with the exception of uncooked or smoked connective tissue fibers. This digestion takes place almost exclusively in the small intestine, to which portion absorption is largely limited, the large intestine absorbing only water and a very small portion of the digestive products. The abnormal decomposition processes are, however, limited for the most part to the large intestine, the small intestine taking part only in rare cases.

1. *Disturbances of Secretory Activity.*—In discussing the influence of intestinal disorders upon metabolism we have to consider the close relationship of each sort of a change upon the whole activity. However, for the sake of bringing out the separate points, we will take them up separately and then discuss the combined effects. The disturbances of secretion have reference to variations in the secretion of bile, pancreatic juice and succus entericus. Disturbances of the first two functions are closely connected with general body metabolism, while those of the third function are little understood.

(a) *Bile.*—I will take up briefly the influence of disturbances in biliary formation and excretion into the intestines only in so far as such changes influence the activity of the bowel. The discussion of the effects of stagnation of bile in producing jaundice and the metabolism in this condition must be passed over, as also the condition of urobilinuria, which is of undoubted intestinal origin. Pleiocholia or pleiochromia are results of blood changes and are only indirectly connected with intestinal disorders. Naturally the absolute exclusion of bile from the bowel, as a result of occlusion, influences the digestive and absorptive powers of the bowel in so far as the absorption of fats and the putrefactive processes are concerned. Complete stagnation of bile exerts a reflex action on the acid secretion of the stomach in the sense that a hyperacidity is usually present in icteric cases. This condition has been supposed to exert a slowing effect on the motility of the bowel, but the researches of Boas and Schmidt teach the reverse. This is due to the increased amount of feces as a result of lessened absorption of fat as well as to the stimulating effect of the fatty acids on the musculature of the large intestine.

As regards the influence of biliary exclusion on digestion and absorption in the bowel, we find that the fats alone are affected. As Müller has shown, about three-fourths of the ether extract of bile-free feces is in the form of fatty acids or of soaps and one-fourth as neutral fat, hence we must conclude that the chief function of the bile has to do with the rendering soluble of the fatty acids and soaps and of stimulating the epithelium to absorption rather than, as is commonly taught, to emulsify the fats. With reference to the influence of exclusion of bile

upon the putrefactive processes, we must say that the question is still unsettled. Although the bile acids have, in vitro, a disinfecting power, yet we are not justified in assuming that such is the case in the bowel. Were such an influence exerted it is hard to understand why, in cases of long-standing exclusion of bile, we do not find catarrhal processes as we do in cases of marked putrefactive processes in the bowel. Moreover, Strasburger has found, in conditions of jaundice, a marked diminution in the bacterial content of the feces. Such being the case, putrefactive processes must be reduced.

(b) *Pancreatic Secretion.*—We must remember that it is only the continuous complete lack of pancreatic secretion that is of importance in digestion. Even this condition may exert little influence upon the digestive processes, as Oser, Truhart, Körte and others have shown. Why this is so is hard to say, yet we know that accessory pancreatic glands are often present and that the other digestive organs and secretions may take on vicarious functions. The chief result of lack of pancreatic secretion is a marked disturbance of absorption and digestion of fats and proteids, while the carbohydrates are absorbed as usual.

The fatty stools of pancreatic disorders are too well known to need much discussion, but a few points differentiating them from those of jaundice may not be out of place. The fatty stools, found in cases of abnormal activity of the pancreas, contain bile, have a higher percentage of neutral fat than do those of jaundice, contain undigested muscle fibers, and show a marked tendency to putrefy. In some cases we find that in men, suffering with obliteration of the pancreatic duct, the absorption of the fat is as great as normal, while in animal experiments marked disturbances of the fat absorption are observed, following removal of the pancreas. The former condition of affairs may be due to the fact that accessory glands may be active or that a second duct may be present. In cases showing fatty stools larger amounts of lecithin than are normal are found when the disturbance is due to the pancreatic lesions. Naturally we should expect to find in cases of marked disturbance of the pancreatic secretion that the proteid digestion was not carried to the normal limits. This is shown in the appearance of muscle fibers in the stools and in a large N-content of the feces. As only the splitting products of proteids are usually absorbed, we find a low nitrogen value in the urine as well as low values for the urea-forming function of the liver. The combination of azotorrhea with steatorrhea may be taken as fairly conclusive evidence of a disturbance of pancreatic secretion. The influence of lack of pancreatic secretion on the digestion of carbohydrates is small. Fr. Müller has shown that these food substances are utilized as normally.

The influence of disturbances in the pancreatic secretion are both general and special. Regarding the special influences, that arising from disturbance of the internal secretion, I have nothing to say. In regard to the external secretion, we find that complete failure of this secretion may, under certain conditions, lead to death from inanition. As the food can not be properly digested and hence absorbed, it has very little

food value. This condition brings about a state of slow-wasting and, although factors previously mentioned may prolong life for some time, death is the result.

2. *Disturbances of Motility.*—The various conditions of motor disturbances of the bowel all lead to a disturbed state of digestion and absorption. In those cases in which increased peristalsis is observed, either as a result of specific irritants or of diseased conditions, the absorption is lessened owing to the passage of the material through the bowel before it is properly split up and ready for absorption. Both the condition of diarrhea and constipation arise from an abnormal peristalsis of the large intestine, but occasionally such changes arise in the small bowel. Usually the diarrhea is accompanied by loss of waste products as the absorption has already taken place in the small intestine. In those conditions which are associated with inflammation of the mucosa of the small intestine we find the utilization of food reduced to small proportions.

In cases of constipation we have accelerated absorption of food products, and particularly of water, leading to hardening and inspissation of feces. It is in such states that abnormal decomposition of the contents, due to bacterial action, takes place, and we may have the condition of auto-intoxication through absorption of abnormal products. According to Ury, we must assume that lessening or increase of peristalsis has no influence on decomposition in the bowel, at least as far as the large intestine is concerned. Strasburger has shown that the feces in constipation contain fewer bacteria than do those in diarrhea. We must conclude from these observations that constipation is not necessarily associated with increased decomposition in the intestines, although the urine contains in such conditions increased amount of ethereal sulphates, etc. The increased absorption must rather be held accountable for the increased excretion in the urine.

3. *Disturbances of Absorption.*—Disturbances of absorption are often the only signs by which we may arrive at a diagnosis of disease of the bowels. This condition is closely linked with those of disturbances of secretion and motility and has been discussed previously. Such disturbances may lead to conditions of mal-nutrition, provided the change is sufficiently marked as to interfere with absorption of food products. In other cases this condition is a function of direct disease of the intestine, which in its turn is associated with other general conditions such as cirrhosis of the liver, heart weakness, tuberculous or catarrhal inflammation of the bowel, etc. Although these conditions may lead to loss of weight, this is more directly traceable to other than intestinal causes.

4. *Decomposition Processes.*—The bowel is the only organ of the body in which from the first day of birth bacterial decomposition processes occur without affecting the general condition of the organism. The ordinary processes which occur in the bowel abnormally are fermentation of the carbohydrates, putrefaction of the proteids and conversion of the fats to lower fatty acids. The last process has little meaning.

Normally the fermentation of the carbohydrates occurs in the lower parts of the small intestines, while the putrefactive processes take place almost exclusively in the large bowel. Occasionally we find these putrefactive changes in the small intestine and in such cases the decomposition products as found in the urine are much increased, owing to the greater absorptive power of the small bowel. In the cecum and colon the places of most marked decomposition, fermentation and putrefaction are associated.

Where must we draw the line between normal and abnormal decomposition in the bowel? That the products formed may exert some toxic action on the system is true, but we must not exaggerate these influences. Skatol, indol, etc., may cause headache, neuralgia, neurasthenic symptoms, etc., yet, as Robighi has shown, symptoms of poisoning are shown in dogs only when 1 gram per kilo is injected. The production of acetone and diacetic acid in the feces has been assumed by Petters, Litten, von Jaksch, Lorenz and others to be a sign of intestinal intoxication leading directly to a state of acidosis, which markedly affects the general metabolism. Keller, Pfaundler, Czerny and others have made this condition accountable for the cyclic vomiting observed in children. Pto-maines, such as putrescin and cadaverin, have been found in the urine by Udransky and Baumann, Stadthagen and Brieger in cases of cystinuria, which is associated with abnormal proteid decomposition. It is quite possible, when the true nature of this disorder of metabolism is known, that these substances may be found to be derived from abnormal tissue metabolism and not from that of food products.

The subject of the influence of these decomposition products on general metabolism is still an unknown field. Little is known as to the effects of such substances. While it is true that abnormal decomposition in the intestine is associated with abnormal products, yet none of the products studied are sufficiently toxic to account for the general effects of such disturbances. We should look rather to unusual types of proteid digestion in such conditions. The question of intracellular activity is more fertile as a field of research, in the writer's opinion, than is the constant study of the products of bowel activity. Abnormal metabolism is easily brought about by conditions of malnutrition, and such may be the result of unknown causes arising from perverted activity of the bowel.

CONCLUSION.

There is no doubt that the stomach and intestines both exert an influence on metabolism, combinations of their disorders bringing about the most marked results. Abnormal activity of either or abnormal formation of products will lead to conditions which affect the general nutrition or bring about the absorption of abnormal products which are foreign to general metabolic activity of the body cells. Such conditions call for abnormal activity of the other organs and of the system as a whole. The stomach and intestines may well be regarded as the guardians of the metabolic well-being of the system, as no normal metabolism can be maintained without their coöperation.

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF THE ILLINOIS STATE MEDICAL SOCIETY.

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JUNE 1907.

THE ROCKFORD MEETING.

The fifty-seventh annual meeting of the Illinois State Medical Society, which convened at Rockford May 21, was, as usual, a distinct success. The attendance was large and the preparations made for the entertainment of the profession were adequate, the papers read full of interest, and the discussion of them timely. The combining of the sections after a trial of division for several years was found to be more satisfactory because every one had an opportunity of hearing every paper read and their authors were assured of good attendance at all times. The attendance at the sessions of the Medical Legal Committee was remarkably good, and the few papers read were given an attentive hearing, showing the intense interest which the profession has in this subject. The church was filled Tuesday evening to hear the addresses of President Percy and Dr. Robert B. Preble, representing the section on internal medicine. Dr. Percy's address sustained his reputation of an eloquent public speaker that he has made during the year in various parts of the state, and Dr. Preble's address took up the subject, "The Rôle of Gross Parasites in the Diffusion of Infectious Diseases," in a manner to interest both the lay and professional hearers.

A deserved compliment was paid Dr. Charles W. Mayo of Rochester,

Minn., by the large attendance at his lecture on Wednesday afternoon, when he read a paper on "The Surgical Treatment of Hyperthyroidism, or Exophthalmic Goiter." The subject was handled in a masterly way by Dr. Mayo and was profusely illustrated by cuts and photographs. The event of most interest during the meeting was the complimentary banquet tendered Drs. J. H. Hollister and W. O. Ensign at the Hotel Nelson Wednesday night. Notwithstanding the lateness of the hour, these faithful pioneers were accorded a great ovation when they arose to address the large assembly, and none could doubt their appreciation of the compliment tendered them.

Among the assembly we noticed Drs. Fairchild of Clinton, Iowa, and L. W. Lüttig of Iowa City. A number of practitioners from southern Wisconsin also attended the meeting.

The business of the society was thoroughly discussed and advanced in the House of Delegates. President Percy's suggestions of the employment of a salaried organizer was placed in the hands of a committee and will undoubtedly result in a marked increase in the membership of the state society and a more thorough organization of professional forces. Another movement along this same line was the endorsement of the idea of admitting the Homeopathic and Eclectic societies to the benefits of the Medicolegal Defense Fund.

Dr. W. L. Baum of Chicago was elected president, and his well-known industry and organizing ability assures a continuance of the advancement which has marked the history of the society for the past eight years. Drs. Lilly and Culhane were rewarded for their efforts in behalf of the society by being elected first and second vice-presidents, respectively. Drs. Weis and Brown, faithful officers, were re-elected to their present positions.

THE LAY PRESS ON PRESIDENT PERCY'S ADDRESS.

Without comment we give herewith an editorial on part of President Percy's presidential address at Rockford appearing in the *Chicago Chronicle*. This is a live topic and a subject for much discussion which may be beneficial to the entire profession. It goes without saying that the lay press looks at the subject from a very different standpoint from the medical profession. There may be concessions necessary from both sides.

The *Chronicle* says:

"He was a wise ecclesiastic who remarked in defense of tuneful choirs and melodious pipe organs in churches that he did not believe in giving the devil a monopoly of the good music. The principle extends to other things.

"It applies, for instance, to the attitude of the 'ethical' members of the medical profession toward advertising. These gentlemen are forever deploring the tendency of people to patronize those whom they term 'advertising quacks.' Is this not another case of permitting the devil to monopolize the good music? If people rush to the 'quacks' because the

'quaeks' advertise might they not be attracted to the legitimate practitioner if those scientists should advertise?

"So far as we know the strictly 'ethical' physician is the only business man who deems it disgraceful to advertise what he has for sale. He has skill and professional knowledge in stock, but he refuses to inform the public of the fact. How long would any other business last if it were conducted on that principle?

"To relinquish the advantages of advertising to the so-called 'quaeks' is merely to give the 'quaeks' the tremendous benefits derived from judicious publicity. In nearly all other lines of business than medicine there is the keenest rivalry in the matter of advertising. In that profession men reprehend what nearly all other business men deem vital in the conduct of their business.

"It is encouraging to note that there are signs of an awakening even among the 'ethical' physicians. In his address before the Illinois Medical Society at Rockford, Dr. Percy of Galesburg, the president, recognized the situation.

"We must change our attitude toward the public on the subject of newspaper advertising," he said. "The irregulars use the press extensively and they educate the public to the injury of all real scientific advance. We must use the same means to forward the true aims and objects of science." Dr. Percy, in short, does not believe that it is wise to leave the devil in control of good music.

"When his confrères make up their mind to accept and exemplify his views there will be less talk of 'advertising quaeks.' When advertising ceases to be stigmatized as quackery—which it is not—physicians will employ the same medium of publicity that are used by other men and will profit by them."

STATE AID TO MEDICAL SCHOOLS.

A prominent member of the state society offers the following suggestions for the basis of settlement of the matter of state aid to medical schools. We print this without comment and would like to have the matter discussed in the columns of THE JOURNAL. His suggestions are as follows:

First.—Let the state establish requirements for medical students and applicants for the degree of M.D. as high as those of England, France, Germany and other enlightened countries and at the same time prohibit any one from beginning the practice of medicine in this state who had not fully met these requirements. Of course, the law should not be retroactive. This country and this state is old and rich enough to afford and be entitled to as good medical service as any place on earth.

Second.—It costs between two and three times as much to educate a medical student as he pays into the college; therefore, let the state appropriate about \$1,500 for every student graduated in medicine in the state and pay it to the school from which he graduates, the officers of the

state universities or board of health, or both, being required to insure the student meeting all their requirements, and let the school furnish thorough instruction.

THE RIGHT TO HOLD AN AUTOPSY.

An important medicolegal question was decided recently in the Circuit Court of Sangamon County, Judge Shirley presiding. The relatives of one John Gonsalves, who was admitted to the Springfield Hospital as a pauper, sued the attending physicians, Drs. Ottis and Graser, because a postmortem examination had been made upon the body of Gonsalves, without the consent of his relatives. The suit was decided in favor of the physicians, the judge instructing that the hospital was a public hospital within the meaning of the law and the body that of a pauper destined to burial at the public expense. It was shown that at the time Gonsalves was admitted to the hospital he came as a pauper and that his relatives were never known in the matter until they came to claim the body.

EFFECT OF CHICAGO SEWAGE ON MISSISSIPPI RIVER.

The discharge of the sewage of the city of Chicago, by way of the Chicago Drainage Canal and the Illinois River into the Mississippi River, raised a question as to the possibility of the pollution of the Mississippi from such source, of great importance in connection with problems of municipal water. To decide this question a proceeding in equity was instituted by the State of Missouri on Jan. 17, 1900, against the State of Illinois and the Sanitary District of Chicago, and the testimony taken in this suit comprises the best symposium on river pollution, its biological and chemical aspects, and its general and special sanitary significance that has ever been assembled. The contentions of both parties to the suit were supported by the most eminently qualified men in the United States, and the evidence presented and the discussion recorded are, therefore, of unique importance.

A digest of this evidence, prepared by Mr. Marshall O. Leighton of the United States Geological Survey, has just been published by the Survey as Water-Supply Paper No. 174.

From a mass of testimony so voluminous that the average mind shrinks in dismay from the mere thought of traversing it, Mr. Leighton has produced an abstract whose fairness must be generally conceded. Skillfully avoiding the irrelevant and purely incidental features of the discussion, he has selected the salient points presented by both sides, and put them in such form as to render them readily intelligible even to the layman. As a result the substance of eight bulky volumes—over 8,000 pages—has been condensed into one volume of 350 pages, and the object stated in the introduction—the presentation of a faithful statement of the scientific phases of the testimony, to the exclusion, if need be, of the legal aspect of the case—seems to have been attained.

The report closes fitly with the full text of the opinion of the court, as rendered by Mr. Justice Holmes, Feb. 19, 1906.

This digest and report can be secured from the office of the Hydrographer U. S. Geological Survey, Washington, D. C.

Correspondence.

THE DIGNITY OF THE MEDICAL PROFESSION IS UPHELD.

The medical profession should feel very grateful toward Governor Deneen for his action in reference to House bill No. 845, known as the Optometry bill, which he refused to sign, and, indeed, his Excellency is to be congratulated for his wisdom and good judgment in vetoing same. He has given good and valid reasons for his action in the matter in the context of the "veto," in which he upholds the dignity of the medical profession.

There are two points in the "veto" that are worthy of special mention: first, the definition of terms which is pertinent, since the laity does not make careful distinction in these matters, and, second, that the refraction of the eyes and the prescription of glasses is looked upon as belonging to the practice of medicine. In the first instance, the "veto" reads as follows: "A doctor who treats the eye is called an oculist as distinguished from a person uneducated in medicine who may learn to use a set of trial lenses in a few weeks and call himself an optometrist." The service of the former is to be regarded as professional skill, the work of the latter as that of a craftsman; this difference is beautifully expressed in the words of President Faunce of Brown University: "In two respects the medical profession deserves the grateful recognition and regard of all other callings in modern life. We have always insisted that the practice of medicine is a profession and not a trade. Trade is occupation for a livelihood; profession is occupation for service of the world. Trade is occupation for joy in the result; profession is occupation for joy in the process. Trade is occupation where anybody may enter; profession is occupation where only those who are prepared may enter. Trade is occupation taken up temporarily, until something better offers; profession is occupation with which one is identified for life. Trade makes one the rival of every other trade; profession makes one the coöperator with all his colleagues. Trade knows only the ethics of success; profession is bound by lasting ties of sacred honor." The second point is very significant and worthy of emphasis: "An oculist may use a drug to suspend accommodation, because he is a graduate of medicine as a foundation for his social studies relative to the eye. An optometrist may not use such drug, nor any other medicine, nor treat the eye, because he is not licensed by the State of Illinois to practice medicine."

The ultimate aim of glasses is to correct refractive errors and secure to the patient a better and a more comfortable vision; but, since there are so many conditions of the eye that reduce the visual power, many of

which depend upon pathological changes and lesions of its structure (which glasses can not benefit), it becomes all the more important to make a correct diagnosis, and in very many instances to make an early diagnosis, for the patient. Competency and reliability can only be secured by one who has received a careful medical education and training. Therefore, it is only reasonable to assume that the work of the optometrist encroaches upon the rights and privileges of the medical profession, or, in other words, that the refraction of the eyes and the prescribing of glasses belongs to a department of medical science known as ophthalmology.

J. WHITEFIELD SMITH.

NURSES THANK MEDICAL PROFESSION.

May 4, 1907.

The members of the Illinois State Association of Graduate Nurses wish to express to the medical profession of Illinois their sincere appreciation of the earnest and loyal support and confidence they have had shown them by the medical profession in the work of securing state registration for nurses of Illinois; and earnestly hope that the work of the new board, soon to be appointed, may ever reflect credit upon its supporters and friends.

CAROLINE D. SEIDENSTICKER, *Chairman*.

ADDIE ELDREDGE.

MINNIE AHRENS.

MARY C. STEWART.

IDA M. TICE.

MARGARET KANE.

MONICA TRACY.

HARRIET FULMER.

M. C. WHEELER, Quincy.

CARRIE S. FLATT, Bloomington.

Special Articles.

THE COUNTY SECRETARY—HIS OPPORTUNITIES AND HIS DUTIES.

W. O. ENSIGN, M.D.

RUTLAND, ILL.

From the very nature of the county medical society and its usual form of organization, together with the corps of officers necessary to the proper conduct of its business affairs, and the successful accomplishment of the commendable purposes for which it is constituted, it may at once be seen that on the secretary, more than upon any other member of the society, rests the principal burden of the organization's success; and such is the eventual experience of nearly every local medical society.

In the assumption of such responsibilities, therefore, the secretary finds placed before himself opportunities and duties of no slight importance to the physicians of his own locality and, in some measure, to the welfare of the profession at large. The actually existing relations between most medical societies and their respective secretaries are such as we believe, without fear of successful contradiction, to be truthfully expressed in the following statement, viz., that while a society might have brief, or even periodical, prosperity through the efforts of its other officers or members alone, yet one which possesses at all times a devoted and efficient secretary will never want for a continued success, and one which can be very accurately measured in character by the extent of such officer's devotion and efficiency. The almost universal experience of medical society organization and progress in the past can but substantiate such affirmation, admitting, however, that in the end the most completely successful results can best be attained where the efforts of such capable secretary are heartily supplemented by the earnest coöperation of his associates.

The opportunities thrown open to the secretary of a county medical society are, therefore, many and important and may be said to consist of such as relate to his society, to himself and to the profession. As relates to his society:

First.—To aid in the development of the local or county society to the highest possible degree of usefulness and benefit to all concerned.

Second.—To faithfully look after the financial and other interests of the organization that its perpetuity may be assured.

Third.—To promote the good name and influence of his fellow practitioners and of his own county society.

As relates to himself:

First.—To occupy therein a position of honor to himself and usefulness to his profession.

Second.—To bring himself into closer association with the physicians of his own locality.

Third.—To become a useful factor in the work of the general organization and advancement of the entire medical profession.

As relates to the profession:

First.—To come to a knowledge of the professional character and needs of every physician in his society's territory.

Second.—To stimulate the mutual interest of individual medical practitioners in each other and in the welfare of the profession of his locality, and to encourage social and professional comity among them.

Third.—To bring all into a closer knowledge of the advantages of professional organization, and to promote the general progress and good standing of the whole medical profession about him.

Without dwelling separately or at length upon the several opportunities herein outlined, it might be said in general terms of his duties that they consist in availing himself of such already named and other possible opportunities to secure the greatest amount of good obtainable for

the advantage and welfare of the membership of his county and locality and, in the end, the advancement of the entire medical profession.

To enable the secretary to efficiently discharge the duties of his office a third factor for consideration here might well have been added to the topic assigned for these remarks, viz., the duty of the society to its secretary. In a very large majority of the county societies no financial remuneration, or other emoluments worthy of mention, are to be looked for, or are likely to attend the performance of the work of such officer. His faithful discharge of the often exacting duties, as to both time and effort, is usually considered to be but a gratuitous contribution on his part to the welfare of the profession and the society he represents. The society and its individual members, therefore, owe it to the secretary that he be at least cordially and helpfully sustained in the performance of his oftentimes onerous labors, and when a member has shown himself to have been both active and competent as a secretary he should be encouraged to continue in such office so long as his efficiency and his own willingness to serve in such a capacity are mutually favorable, since each additional year of faithful service can but add to his experience and other desirable qualifications for the position.

In the full and complete discharge of his duties, first and last of all others, the secretary should strive to get in cordial touch with each and every member of the profession within his own territory. Personal feelings of animosity toward or distrust of others, on his own part, must be restrained, and his success in so doing will be strongly in evidence whenever the name of every member of the profession of his own town or vicinity has been added to his society's roll of membership. A uniformly courteous and impartial treatment of each member, in the discharge of his several duties, such consideration being governed largely by a desire for the general good of all and made in strict compliance with the rules and regulations of the society, will serve to avoid very many disagreeable and annoying complaints, although it can scarcely be hoped to entirely eliminate all such objectionable features, since it would seem to have been foreordained that we should be liable to have the cynic, like the poor, always with us.

The financial duties of the secretary, whether, as is quite customary in county societies, they be combined with those of treasurer or are such as more properly belong to the secretary's office only, should be thoroughly and accurately discharged, and no dues or other funds should be received by him without at least three following entries are promptly made, viz., first, a receipt naming the date and explaining the nature of the payment made, and to be given in return to the payer; second, a stub duplicate corresponding to the receipt issued, to be retained by the secretary; third, an individual record of such payment plainly entered upon the financial books of the society. These separate entries are usually sufficient to serve all necessary purposes of record and to mutually correct errors of entry, if any such may have occurred in either, as well as to protect both the society and the individual member. Such stubs and book entries should be open to inspection by the society or any of its mem-

bers and, with each financial report made annually, or even more frequently, should then and there be duly audited by action of the society, both for the protection of the good name of the secretary and the creditable standing of the organization.

Neat, accurate and complete records of the transactions of the society, preserved in a legible and permanent form, should be the aim of every secretary. Such record should not only embrace a full report of each and every meeting held, but might be an hundredfold increased in value if with them were entered creditable personal items of note, if any appear, concerning members and conditions of the profession throughout the county during the interval between regular meetings. Combined together such entries would constitute important records of local professional and historical interest, not only of present worth, but whose value would be doubly enhanced with increasing years. In commending such records, however, we are not to be understood as approving prolix and irrelevant accounts of proceedings embellished by the individual views of their authors, but rather a complete and unqualified entry of all items, or facts of interest, connected with the actual transactions of the society. On the other hand, not infrequently the secretary's report is but such a brief abstract of the exercises held as to be almost incomprehensible to others at the time and perhaps a year or two later equally to himself as well.

Whenever we contemplate the fact that the records of the early medical societies within our commonwealth, full or incompetent as they may then have been, are now very rarely to be found, even if by chance any may be in existence, we are able to realize in some measure that although of perhaps little apparent importance to such organizations at the time, they would now constitute documents of no little value to us as sources of information, not otherwise obtainable, concerning the early history of the medical profession of the state.

From the fact that not to exceed a half dozen of the local medical societies, organized more than a half century since, have had a continuous existence down to the present time, we cannot but be convinced that among the records of the considerable number which from time to time have had a more or less variable existence in the past, and whose reports are now practically lost, there must have been much recorded of probable later historical value to our profession as well as of interest to the public. Thus had the records of all the now defunct local medical societies in this state been properly prepared and placed in the hands of their several county historical societies, or otherwise permanently preserved, for future reference, they might have become sources of much further usefulness at this time, especially to our own profession.

Many such county or other local medical societies throughout Illinois were doubtless either temporarily or permanently discontinued about 1861 or soon afterward, owing to the departure to the Civil War of many of the medical profession constituting their membership. Were properly preserved records of such organizations now available much light might be thrown upon the services thus rendered, and the important part taken

by the medical profession of this state in that great and important conflict. Indeed, it might be here stated that the subject of the medical men of Illinois in the Civil war has never received the attention or consideration it so justly deserves, and this perhaps largely for the want of the necessary data on which to make such history complete.

Each county secretary, therefore, in preparing such reports should always have in mind, not alone the temporary value of his records to the society which he may serve, but likewise their probable future importance to the profession and the public as a reliable part of his own county's history. Hence a full and perfect record will not only bring to his work the hearty approval of his fellows, but it may in after years become a source of further usefulness and meet with the appreciation and cordial commendations of future historians of local and state history.

An active and efficient medical society secretary, of the necessary self-sacrificing and devoted type, thoroughly observant of his opportunities and consecrated to his duties, is, indeed, a jewel, and his zealous missionary spirit, like the inspiration of the true poet, may be said to have been born in him, not made.

HOW TO MAKE THE COUNTY SOCIETY SUCCESSFUL.

D. G. SMITH, M.D.

ELIZABETH, ILL.

As this is a meeting of the secretaries, this subject is to be looked upon from the secretary's standpoint, and in so doing I will consider the two main essentials which make a county society a success. First, always a good scientific program, and, second, a good social program. Now, how to bring about these two features is a problem of no small importance. This scientific program should be an interesting and practical one; if the society is made up mainly of county practitioners or of physicians from small towns eight out every ten subjects should be handled from the medical standpoint, and the surgical subjects or surgical side be discussed by a surgeon of known ability.

During the course of a year every member should have at least one opportunity to participate in the program, either by paper or discussion or in presenting a case before the society. With many societies the arranging and getting up of the program is left with the secretary; this is certainly no small task, and it is the one that gives me the most anxiety. I find there are always more men willing to be excused from taking part in the program than are willing to act and it is often a difficult matter to get sufficient material. A society that meets but four or six times per year should have at least one or two meetings in which there is some one from another county or state to be the essayist or main drawing card; such members who think they cannot learn anything from their immediate colleagues will come out to these meetings, and when once there will listen to discussions by their neighbors and profit thereby. To provoke interesting discussions is the most difficult task, after a subject has been well handled in an essay and by an able writer. Here is

where it is wise sometimes to reverse the order and have a home member open the subject by essay and have the foreign talent discuss it; this will give a change, be edifying and bring better success to the society; in fact, the subjects should vary and something new be presented every time so that not a single member can afford to be absent.

To maintain the interest in a meeting when once arranged it is necessary to have a presiding officer who can keep the ball rolling and maintain the interest throughout the meeting, who can fill in a vacant spot and not allow those dry, quiet or do-nothing periods to occur. Sometimes a subject and essayist will obtain space on the program which will put the majority of the members to sleep; it is here where tact must be shown and have something to follow that will overbalance the former so that the members will go away well pleased and with no recollection of the dry-bone subject.

The second, or social feature, is one which depends upon the makeup of the physicians of the county; every county that does not have a successful society has some physicians who would rather not meet their colleagues, or opponents as they call them; it is after they have mingled together in a society meeting and exchanged social greetings that they decide that the fellow is not a bad sort after all. How can this be done? Not by appointing a place and hour of meeting and one after another slip into the hall, sit there until all is over and then start home again. Allow me to quote a method here that is in practice in my home society and that has aided us more in bringing about a friendly and brotherly feeling than anything else we could do. Our county is so geographically located that we must meet in the four quarters during the course of the year, and hence we have what is called four divisions for entertainment. The membership is divided at each annual meeting for this purpose, and when the society meets at any of these places the division that entertains at that place will be on hand, meet the trains, welcome the members, escort them to the hall or hotel, see that they are fed and not allowed to roam alone, have a dinner so arranged that all can dine together, and the expenses are paid by the entertaining division. The members and visitors go away well fed and entertained socially and scientifically and not allowed to use one cent of their own money. This feature has worked very well, and, as a rule, all go away knowing that there is that fraternal feeling existing that can only be found among noble men whose example it is well to emulate and in whose company one can not exist without being made better morally and intellectually.

COUNTY AND DISTRICT SOCIETIES

CLARK COUNTY.

The Clark County Medical Society met in Dr. Haslit's office at 2 p. m. The president and vice-president being absent, Dr. Hall was elected chairman. Members present were Hall, Prewett, Burnside, Bradley, Duncan, Haslit, L. J. Weir, S. W. Weir, and Ryerson. Dr. C. B. Barlow, Councilor of the State society for this district, was present. Dr. Burnside reported a case of death from shock, following a railroad injury. Thigh was fractured, no other injury found. Dr. Haslit reported a case of abdominal pain, severe; slow, weak pulse, no fever. After a few hours vomited blood, died in 28 hours. Diagnosis, perforation of stomach. Other similar cases were reported in the discussion of this case. Dr. E. M. Duncan read a paper on the Symptoms of Typical Influenza and Some of its Complications. The paper was original, written from the doctor's personal experience with the disease for thirty years. It was well received and the subject was discussed extensively by every physician present.

Officers for the ensuing year were elected as follows: President, Dr. Ryerson; secretary-treasurer, L. J. Weir; vice-president, G. W. Prewett; censors, G. W. Prewett, P. P. Haslit, and Joseph Hale; program committee, E. M. Duncan, R. H. Bradley, and L. J. Weir; committee on necrology, Prewett, Duncan, and Bradley; delegate to the state society, Dr. G. F. Rowland.

On motion of Dr. Burnside, Casey was chosen as the place for the next meeting. Society then adjourned to meet at the Baptist church at 6 p. m., where ten physicians and their wives enjoyed an excellent banquet, followed by music, etc. The scientific discussion in the afternoon and the social feature in the evening made a combination especially profitable and pleasant.

COOK COUNTY.

CHICAGO MEDICAL SOCIETY.

Joint meeting of the Chicago Laryngological and Otological Society and Chicago Medical Society, held March 20, 1907, with the President of the Chicago Laryngological and Otological Society, Dr. J. Holinger, in the chair. Papers were read as follows: 1. "Relation Between Diseases of the Fauces, Tonsil and Rheumatism," by Dr. E. Fletcher Ingals. 2. "The Relation Between Diseases of the Fauces, Tonsils and Enlargement of the Glands of the Neck," by Dr. James T. Campbell. 3. "Discussion of the Occurrence of Tubercular Disease of the Tonsils," by Dr. Charles M. Robertson.

DISCUSSION.

Dr. Joseph A. Capps:—In the absence of Dr. Herrick, who was to have opened the discussion on Dr. Campbell's paper, I was asked to take part in the discussion on the relation of inflammation of the throat to inflammation of the lymphatic glands. Dr. Campbell has already covered the association of inflammation of the throat and glands so thoroughly that I will only speak of one group of cases to which he did not pay any special attention, since his paper was so broad in scope. I refer to the type of cases with acute cervical adenitis that occurs especially in children, with a simple sore throat. When I say simple sore throat, I say it purposely, because its etiology is not definitely settled. It is a type of sore throat, however, we would ordinarily call a gripe sore throat, and this combination of sore throat and adenitis is especially interesting and important just now for two

reasons: First, the combination has in the last year been more prevalent than usual, and, second, some new light has been thrown upon the etiology of these infections.

Etiologically, perhaps, this is not a distinct group, but clinically it is, and I think it would be well to point out some of the characteristics of this class of cases. The clinical picture I refer to is this: A child has sore throat, high temperature, and a correspondingly rapid pulse. On examination the throat is seen to be neither ulcerated nor is there any follicular tonsillitis, such as we might have anticipated from the symptoms, but simply a red, congested throat. The soft palate, the tonsils, pharynx and naso-pharynx take part in this redness equally. The temperature remains high for several days. The infection is more severe than one would expect from the first examination; then gradually the temperature subsides. Perhaps there has been a slight glandular swelling, but not pronounced, when an exacerbation of the symptoms comes on. The fever rises usually to 104.5°; the pulse is rapid again, the child seems quite as ill or more so than at the first visit, and there is noticeable a very decided swelling of the cervical glands, particularly near the angle of the jaw, involving the deep cervical glands. This enlargement of the glands, at first discrete, is very apt to become diffuse, and is very rapid in its progress until the lump may become the size of a hen's egg or the size of the fist, and usually it is quite hard and tender, rather irregular in outline, and, as I said before, it is apt to become diffuse, so that we can not make out definitely the individual glands. This tumor mass, made up of inflamed glands, may remain without much change; the temperature continuing for a week or two weeks, possibly longer, when it follows one of two courses: it either begins to subside, and when once it begins to subside the improvement is rapid, or else the case goes on to suppuration. A red spot appears at some point, and either suppurates spontaneously or is opened, and a small quantity of pus is evacuated. Usually the whole group of glands does not suppurate, only a portion of them. I presume that this clinical picture has been more common in the last year or two, not because it is anything new, but because all infections of the throat have been so prevalent this last year.

In looking up my records I find that in the last two years I have seen five such cases which would fairly come within this group. Of that number, in four cultures were taken from the throat, and in all four influenza bacilli were found in considerable number; but the smear did not show a pure infection by any means. There were present also streptococci or staphylococci. Two cases progressed to suppuration, and the pus from them both showed streptococci in large numbers.

The etiology, as I said before, is not clear. The fact that grippe organisms were so often found in this group led me to make some inquiries among physicians with regard to these cases, and I learn that in many similar cases seen by other physicians influenzal infection forms a basis of the whole picture, and it recalls the so-called glandular fever which Pfeiffer described. Possibly it is similar to the enlargement of the glands he described, and which he attributed to the influenza bacillus; but whether he found the influenza bacilli in the glands or not I do not know. The fact that in the two suppurative cases streptococci were found would suggest that the glandular swellings which break down are probably due to mixed infection. We might assume that we have grippe infection in a large proportion of these cases; that pyogenic cocci are present in some, possibly in all, and that these cocci are responsible for breaking down of the glands. I think it quite probable that the large gland tumors which do not suppurate are also due to the pus organisms, for we do not see in ordinary cases of influenza any marked predisposition to glandular enlargement. The diagnosis of these cases is not at all difficult. An important thing in my experience is the great size of the enlargement, the height of fever, and the constitutional symptoms. There is nearly always a leucocytosis of 15,000 to 20,000, and the appearance is quite alarming unless one has seen the same picture before.

These cases may be confounded with acute tuberculosis. In fact, Dr. Eisen-

drath, in a recent article, described two cases of a similar type clinically upon which he operated, and which he considered from the nature of the cheesy pus were tuberculous. It is certainly a very unusual form of tuberculosis. But the cases I have described in this general type can usually be readily distinguished from tuberculosis by the sudden appearance of glandular swelling, and even more by the rapid disappearance of the swelling. In some of these cases there may be a lump left in the neck for several months, but in the course of five or six or eight weeks, as a rule, nothing remains to tell the story. We could hardly conceive of a tuberculous disappearance so quickly and so completely. I think it would be profitable if cultures were more generally made in these cases in order that an etiological classification might be made.

Dr. Daniel N. Eisendrath:—This is a subject that interests the general surgeon almost as much as it does the specialist in nose and throat work, and it is one I have been particularly interested in for a number of years, and have kept accounts of the cases I have seen. The cases to which Dr. Capps referred are especially interesting. This winter they have not been as prevalent—at least I have not seen as many as I did last winter. These cases were what Dr. Capps has called acute enlargement of the lymph nodes of the neck, and probably correspond to some extent with those described by Pfeiffer in 1899 as glandular fever. In the cases which I saw the enlargement of the lymph nodes was out of proportion to the height of the temperature. Very frequently I was called to see these cases in consultation. A child, for instance, would have a temperature of 104.5°, with a relatively small number of lymph nodes enlarged, not larger perhaps than the average sized marble. During the present winter these cases have assumed a little different type, in that not only have they affected the lymph nodes of the neck, following primary sore throat, but they have affected the lymph nodes, as those of the axilla, the groin, apparently taking part in the process of a general infection, so that in some cases it was thought there was an acute lymphatic leukemia until the blood was examined.

The case which Dr. Capps referred to is one I reported last winter. This was especially interesting. The patient was a boy, 14 years of age, attending high school, who had been treated by his physician for grippe and enlargement of the glands of the neck. Following this treatment, his temperature apparently became normal. I saw him three or four weeks after the enlargement had begun. On account of a swelling existing in the sterno-cleido-mastoid muscle, and finding distinct fluctuation, I excised what I considered to be a typical tuberculous broken-down gland that continued to suppurate for about two weeks longer, and I did a radical operation, extirpating about twenty typical tuberculous glands in all stages, from the little tubercle to the large broken-down cheesy gland. Undoubtedly this was a case of mixed infection, where the Pfeiffer bacillus infection was in all probability, the primary cause of the trouble, and secondary infection with tuberculosis. It is of especial interest because these cases are apt to be overlooked and are considered to be ordinary glandular fever.

A number of very interesting points have been brought out. Unfortunately, I did not hear the paper of Dr. Ingals; I simply heard Dr. Robertson's reference to it. Dr. Robertson, in quoting Dr. Ingals, said there were no cases of primary tuberculosis of the tonsil, if I understood him correctly. I have had occasion to look up the literature quite thoroughly, and the first question that arises is this, What can be considered primary tuberculosis of the tonsil? The most rigid test of primary tuberculosis of the tonsil would be that at autopsy you can find no other foci of tuberculosis in the body. But that is impossible, and we must depend upon the clinical findings, as in tuberculosis of the lungs or intestines, and from our observation of the patient. There have been reported eleven undoubted cases of primary tuberculosis of the tonsil, the majority of them having been verified by autopsies and of finding primary tuberculosis of the tonsil, in which there were no other tubercle bacilli found in the body. The primary focus being in the tonsil, with secondary involvement of the lymph nodes of the neck.

Dr. Robertson referred to some researches that have been made by Luder, who

found in 32 cases only 5 of tuberculosis in extirpated tonsils. It is a hard problem to decide whether there is in these cases primary tuberculosis of the tonsil or not. In about sixty cases of operations for tuberculosis of the lymph nodes of the neck I have made it a rule to have associated with myself a laryngologist and rhinologist for the purpose of extirpating the tonsils. It is a fact not known generally by the average surgeon or general practitioner that tubercular lymph nodes of the neck will cease to develop in the majority of cases if we remove the primary focus, which, so far as we can tell, is in the tonsil. I have seen that verified clinically in two cases. One patient was a boy, 10 years of age, upon whom I operated for the removal of tubercular glands of the neck. I removed a large number of them, and at the end of six months he came back with as large a crop as before. I took out a second lot of these tubercular glands or nodes, and had a specialist remove the tonsils and adenoids. Since that time there has been absolutely no recurrence. I had the same experience in a second case. I wish to emphasize the point that in every case, where a surgeon operates upon tubercular glands of the neck, he ought to have the tonsils and adenoids removed, because the percentage of tubercular tonsils and adenoids, as researches show, varies from 8 to 10 or 12 per cent., so that we can not afford to take any chances in leaving them.

As to the relation between appendicitis and tonsillitis, scarcely a winter has passed during the last two or three years that surgeons have not seen tonsillitis in children followed by typical attacks of appendicitis, so that clinically the association of the two diseases is quite well established.

Dr. Robert H. Babcock:—I have not heard a discussion in this hall for a long time which I regard of so much importance to the general practitioner as the one to which we have listened this evening. Perhaps in this connection I might cite a remark made by the late Dr. Christopher in his last illness to the effect that, in thinking over his work among children, he was impressed by the fact that in nearly every instance of disease in children, of whatever nature, the portal of infection had been the throat, and that in a very large percentage of cases the portal of entrance had been the tonsil. This is a matter which I feel the general practitioner is not always sufficiently alive to; certainly the cases of adults that come to me, as well as of children, bear out the importance of the condition of the tonsils. A large majority of the cases I see are instances with some form of heart disease, perhaps valvular disease, and in nearly all the cases which I have investigated, since my attention was drawn to the subject a good many years ago by the researches of Fritz Meyer, have shown either chronically diseased tonsils or a history of previous sore throat, using it in a general sense, and many times a tonsillitis.

I do not know whether Dr. Ingals referred to the work done by Fritz Meyer in the effort to determine the bacteria responsible for acute articular rheumatism or not. The question is still *sub judice*; but I believe the trend of investigation and thought is to the effect that we must abandon our old notion that acute articular rheumatism is a blood disease in the sense of its being due to some chemical irritant; that it is, in fact, a specific disease. There have been a great many observations made which go far to prove, although they are not accepted by all, that the micro-organism responsible for attacks of acute articular rheumatism of the typical or classical type is a diplococcus allied to the streptococcus, and which has been styled the diplococcus rheumaticus. We must recognize various kinds of articular rheumatism, some of which seem to be of a specific type, and others which are due to streptococcus infection apparently, but are not specific.

With reference to the importance played by follicular tonsillitis in the production of acute endocarditis, I would like to cite the instance of a young man in this city who, in April, two years ago, developed an acute tonsillitis which he thought but little of, which was treated by his physician, and subsided to all appearances in a few days. He did not, however, regain his health fully, and in the latter part of June developed symptoms which, at first, were obscure and thought to be those of typhoid fever. The disease proved to be a streptococcus infection with malignant endocarditis, pure streptococci being obtained from the

blood. The disease progressed in spite of everything until he died in the following December, and the autopsy substantiated the diagnosis which had been made during life. In this case it was as clear as daylight that infection started in the tonsil; that it was apparently a trifling tonsillitis, and yet it resulted in this man's death six months later.

With reference to tuberculosis of the tonsil, I would only like to say that statistics are at variance as to the frequency of primary, as well as secondary, tuberculosis of the tonsil; but that tuberculosis of the tonsil does take place there can be no doubt, and that diseased tonsils in childhood furnish a culture medium for the development of such bacilli as may be inhaled is beyond all cavil, and, therefore, furnish a portal of infection which may ultimately result in pulmonary tuberculosis in adult age. Therefore, I am radical in my opinion and advice to parents to have the tonsils of their children removed.

Dr. Frank S. Churchill:—This is a subject which interests the pediatrician fully as much as it does the laryngologist. I would like to emphasize especially what Dr. Babcock has just said with reference to the importance of the removal of enlarged tonsils and adenoids in children. A child with enlarged tonsils which are always in a diseased condition is exposed constantly to repeated infections, not only minor infections, such as those produced by the streptococcus and influenza bacillus, but the more serious infections, such as those produced by the Klebs-Loeffler bacillus and scarlatinal infections. Such children are more apt to pick up these infections than if they are minus this disease of the tonsils. I always advocate and advise parents of patients to have these adenoids and enlarged tonsils removed.

There is one point to which I am afraid the laryngologists do not attach enough importance, for the simple reason that they do not see their patients afterwards as often as do the pediatricians: I am very much opposed to having the tonsils and adenoids of children removed in the fall and winter months of the year. I would have them removed, if possible, in the late spring or summer, on account of the climatic conditions under which we live, for I have seen repeatedly children from whom these gentlemen have removed adenoids and tonsils in the fall of the year, having persistent "colds" throughout the following winter, having attacks of infections of an unknown and indefinite nature. So I think it is quite important that the tonsils should be removed during the warm season of the year.

The paper in which I am more particularly interested is the first, that of Dr. Ingals, on the relationship of tonsillitis to rheumatism. It seems to me Dr. Ingals takes too limited a view of the term "rheumatism." It is among children especially that we have the best opportunity for studying the manifestations of this disease, for at this period of life it is most varied in its forms. In children we do not see an arthritis as the most common and frequent manifestation of rheumatism. We see rather endocarditis. Cheadle was one of the first, if not the first, to point out the broader conception of the term rheumatism. "Arthritis is at its minimum, endocarditis is at its maximum." Other manifestations of it are, in addition to tonsillitis and endocarditis, the subcutaneous enlargements which Cheadle and other Englishmen speak of frequently, also erythema and pleurisy, and some English writers speak even of certain attacks of appendicitis as a manifestation of rheumatism, which is interesting, apropos of Dr. Eisen-drath's remarks about the association of tonsillitis and appendicitis. Chorea is another manifestation of rheumatism very often if not in all cases. These are not complications, but are manifestations of rheumatism. In this way tonsillitis would be regarded as a manifestation of rheumatism, pure and simple, not always, but in a great many cases. Taking this broad conception of the term, it is obvious that if we go carefully into the histories of our cases, both before we see them and follow them up later on, we shall find more frequently in our cases of tonsillitis a history of antecedent rheumatism; that is if we inquire whether or not the child has had any one or all of those different things—chorea, tonsillitis, endocarditis, erythema, pleurisy, etc. In children we must be prepared to see

these wider manifestations of the disease. Furthermore, these manifestations often cover long periods of time, stretching not only into weeks and months, but may be into years. They are apt to occur in children with a rheumatic family history; they occur in children who have had an attack of tonsillitis at one time; at another time an attack of endocarditis, and still another time an attack of erythema, or the development of subcutaneous nodules, etc.

Dr. Babcock spoke on the bacteriology and has quoted the work of Fritz Meyer, which is extremely interesting. After all, until we find out more about the bacteriology of the subject, our views will be more or less theoretical, but, as far as they go, of one thing there can be no doubt, and that is the general trend of opinion is to regard rheumatism as an infectious disease, and the researches of Fritz Meyer go to confirm that view. The cause is perhaps the diplococcus of which Meyer has spoken, and which he has found on the tonsils of rheumatic individuals when he has failed to find it in the blood or in other parts of the body. He has also found it in the subcutaneous fibrous nodules, of which apparently the English see more than we do in America, bearing out the theory that these are also of an infectious nature and are a manifestation of rheumatism.

Dr. Campbell said that breast-fed infants are more immune to infectious diseases than are other individuals, if I understood him correctly. That is true, but whether or not it is due to the absence of the tonsil, as he also stated, I am rather skeptical. This immunity does not apply to bottle-fed babies, equally without tonsils. In this connection it is interesting to refer to the work of Amberg of Baltimore, who has tested the opsonic index to staphylococcus of breast-fed babies and also of bottle-fed babies, and has found that, as a rule, the index of breast-fed babies runs higher than does the index of bottle-fed babies, showing, I presume, a greater resistance on the part of such babies to infectious diseases.

Dr. Elmer L. Kenyon:—It seems to me that the specially significant idea involved in the series of papers read to-night is the attempt to substitute facts for what has heretofore been largely speculation. The whole question is one which concerns the relationship of conditions in the upper air and food passages to remote infections. If one searches the literature, he will find a good deal of supposition concerning such a relationship, and he will find also a real absence of proof. It seems fortunate now that we have entered upon a course which promises to result in the accumulation of facts. But the proof of this relationship is certainly difficult. If it were true that remote infection usually followed at once upon an acute infection within the throat, then the establishment of the association would be easier. As a matter of fact, I believe the rule is that remote infection has no immediate reference as to time with local inflammation. A number of cases have been cited here to-night in which such a relationship has seemed to be immediate. In the effort to accumulate the facts in connection with these cases, it is highly desirable that every instance of apparent certainty in the immediate association of throat inflammation with remote infection should be put into print in order that an accumulation of proof may go on. On the whole, however, as I see it, for actual proof we will have to depend on statistics. This is unfortunate because statistics are hard to manage.

Speaking of Dr. Ingals' tonsillitis cases, they are impressive; yet one would not be holding his mind open to scientific frankness if he did not realize the serious possibility of error in these statistics. Both in the tonsillitis cases and in the control cases the patients may have been, and indeed to a large extent were, subject to such diseases as tuberculosis of the lungs, pneumonia, bronchitis, syphilis, asthma, hay fever, other inflammations of the throat and nose beside tonsillitis, and to various digestive disturbances, any one of which might have served to produce an atrium for the entrance of the rheumatic infection, because any mucous membrane connected with the outer air is certainly capable of bearing infective germs. So there is a real possibility of error here, and these statistics can not but be viewed in the light of such possibility. Much more evidence must be adduced in order to prove the relationship of acute tonsillitis to rheumatism.

Cases of adenoids, I think, would be peculiarly favorable for such statistical

study. The reason is that a series of cases of adenoids (including also faucial tonsil enlargement) might be found in children in which practically no other disease had been present, or was present, affecting either the skin or mucous membranes. A control series of cases in which children practically free of diseases either of the skin or mucous surfaces connected with the outer air could also be secured. Such cases would be favorable for statistical study in this connection, because less liable to error from other incidental diseases of the mucous membranes.

Realizing that the mucous membranes of the pharynx, as well as the lymphatic tissue of the tonsils might constitute an important source of hematogenic infection from the throat, I set out to attempt to formulate a series of statistical cases. I took out of Dr. Ingals' large store 27 records of cases of pharyngitis and rhinitis; I included very carefully only those cases in which the tonsils were clearly stated to be normal. I excluded all cases in which the patient had had any disease whatsoever, excepting the early diseases of childhood; the only exception to this was that one or two cases of inflammation of the ear were included. Out of these 27 cases there were seven instances of rheumatism of one form or another; that is $26\frac{1}{2}$ per cent. While this small list of cases can mean nothing accurate of itself, yet it tends to confirm the possibility of error in Dr. Ingals' statistics and to prove that rheumatic infection may enter through inflamed mucous membrane. It is possible that pharyngeal inflammation is nearly or even quite as important as tonsillar inflammation in its liability to be the source of hematogenic infection.

Dr. William L. Ballenger:—The trend of opinion is that the tonsils are a source of infection not only for tuberculosis, but for rheumatism and many other diseases, and, being a source of infection, the question naturally arises, What can be done to prevent the absorption of infective material? In other words, shall we be content with the partial removal of the tonsils or a complete removal of them?

Dr. Robertson found in his tubercular cases a lesion at the bottom of the crypts. He said, also, that he found the crypts very often extended to the tonsillar capsule, the outer wall. I have removed many hundreds of tonsils with the capsule intact, and have examined every one of them with a probe, and have found few instances in which the crypts did not extend to or very near to the capsule. It is rare, indeed, that a crypt does not extend to the capsule or the entire depth of the tonsil. If we want to remove the source of infection, the atrium of infection in these cases, we should, therefore, remove the tonsil to the depth of the crypts, and the easiest and most certain way to do it is to remove the tonsil with its capsule intact.

As to the advisability of operating in the fall or winter, or to waiting for late spring or summer, Dr. Churchill has said he found in many cases that the children had fever or were subject to cold for some months after operation when the operations were done in the fall and winter. The explanation of that may lie in the fact that the tonsils or adenoids were not completely removed and the atrium of infection, the crypts, still left in the sinus tonsillaris. However, I am not sure that this is the true explanation. If the tonsil is completely removed, this source of danger may be reduced somewhat. Hence, in my opinion, the only operation that is justifiable is complete removal of the tonsil, not necessarily with its capsule intact, but so much of them as to include all crypts, which practically reduces it to the point where we must remove the capsule. I admit that all the essential part of the tonsil can be removed, and still leave the capsule; a safer way, however, is to remove the capsule as well. I can conceive of no serious argument against it, and by so doing we are absolutely sure we have removed the tonsil with its crypts in its entirety. Hence I would leave this suggestion with you, that we should thoroughly remove all tonsil instead of partially removing it.

One of the great surgeons of America recently said the tonsil causes more sickness, suffering and death than the appendix. This being true, the technique

of the tonsil operation is worthy of the most careful and painstaking study. The time must come, and is speedily coming, when the partial removal of the tonsil will be regarded, in most instances, as reprehensible practice.

Dr. Ingals (closing the discussion on his part):—I feel more convinced of the fact than ever that our impressions are not of much value. A good deal that has been said this evening is possibly the result of impression. I admitted in the beginning that my impressions had been wrong, and I question whether some of the impressions of others may not be faulty. I had become impressed with the idea that rheumatism and tonsillitis had either no relation or only a slight relation to each other; but an examination of my records showed there was a good deal more relationship than I thought, and it is possible that some of the impressions that others have had quite firmly fixed will be found to be based on no better evidence than were my own. It has seemed to me that there is very much chance for error in the subject we have been discussing and in the meaning of the term rheumatism. I do not think we are capable of saying what rheumatism is. I should suppose, however, that the gentlemen who treat children are more apt to be right than those of us who treat adults in making an accurate diagnosis of rheumatism and in finding true rheumatic cases. It is possibly true that the various conditions that are called rheumatic do not depend upon a single infectious agent or whatever its course may be, whether it be a micro-organism or a chemical substance, and it appears likely that there is more than one agent or factor that causes the various affections that we call rheumatism.

I was quite surprised at the statement made by one gentleman that there was such a large number of primary cases of tuberculosis of the tonsils. It surely does not accord with my own observations. Therefore, I was somewhat relieved when Dr. Eisendrath said there were only eleven such cases reported. I knew that I had never seen a case that I was sure was primary tuberculosis of the tonsils; but if there are only eleven cases that have been observed anywhere I do not wonder at my not having seen one. Years ago I thought I had for treatment a patient with primary tuberculosis of the tonsil, but later I came to the conclusion that I had been mistaken in my diagnosis. The patient did not die of tuberculosis.

The suggestion that diseased tonsils ought to be removed is very pertinent, provided they are of any considerable size. I have felt that as long as a tonsil is not larger than an almond and shows no active disease, and so long as it does not give the person any inconvenience by becoming inflamed from time to time, we are not justified in recommending its removal. But I do think, whenever a patient has a diseased tonsil that has attained any considerable size, it certainly ought to be removed.

As to the time for the removal of the tonsils, I have not observed any of the indications Dr. Churchill spoke of. He may be correct, and I must confess that I have not seen patients very often after removing their tonsils. Generally, after removing tonsils from children, I see them in a couple of weeks, and perhaps do not see them again during their lifetime, or if I do see them again it is generally for some other trouble. I stated in my paper that in the 100 cases there was only one child under 10 years of age in whom I found tonsillitis. I am not sure whether that was an acute tonsillitis or not, but I believe it was. Considering the fact that I have removed tonsils from hundreds of children, it is surprising that I have only one case of acute tonsillitis in a young child, although I have the records of all the cases that I have treated for over thirty years.

Dr. Robertson (closing the discussion):—There have been more than eleven cases of primary tuberculosis of the tonsil reported up to the present time. Dr. Ingals made a mistake; it is not that there were not more, but there were only eleven cases found postmortem where there was not tuberculosis found in other parts of the body, as pointed out by Dr. Eisendrath. It depends a good deal upon what we call primary tuberculosis. To say that we have primary tuberculosis would indicate that we are unable to find any trace of tuberculosis in any other part of the body and that we can demonstrate this disease in the tonsil by the

microscopic slide after the gland has been removed. That is as near as we can tell primary tuberculous without a postmortem. If we have a slide showing a broken-down lymph body that shows giant cells and epithelial tissue, it is evidence enough that we have tubercular disease. Of course, there are lots of tonsils which may break down and show giant cells which are not tubercular as in syphilis or chronic granulations.

Secondary tuberculosis will manifest itself as an ulceration of the tonsil.

As regards the size of the tonsils to be removed, that phase of the subject was not touched upon, nor was the method of removal referred to in the paper. I would like to say, however, that any tonsil that is perceptibly enlarged is pathologic and should be removed. There is no more reason why we should keep a diseased tonsil in the throat than a diseased appendix in the abdomen, and if any surgeon should diagnose appendicitis in these days and leave the appendix in the abdominal cavity he would be mobbed. (Laughter.)

Other infections were not touched upon. There are infections which occur by way of the tonsils, and it is absolutely proven in my mind that the tonsil is the first place to be infected, because we can watch the glands beginning to be infected gradually; then we cut the tonsil out and see the infection disappear in retrograde fashion, showing that the tonsil is the focus of infection, and, as Dr. Eisendrath has remarked, in removing the glands of the neck it is necessary to remove the tonsils also. The relation between the two is established and recognized by surgeons.

Regular Meeting, March 27, 1907.

A regular meeting was held March 27, 1907, with the President, Dr. George W. Webster, in the chair. Drs. H. W. Abelman and Edward H. Ochsner read a joint paper on "The Technic Employed and the Results Obtained in a Case of Aene Varioliformis by the Wright Vaccination Method." The paper was discussed by Drs. John C. Hollister, Adolph Gehrmann, and in closing by the essayists. Dr. Allen B. Kanavel read a paper on "Chronic Suppurative Processes in the Hands," which was illustrated by lantern slides. The paper was discussed by Dr. William Fuller. Dr. George Rubin read a paper entitled "The Influence of Alcohol and Chloroform on Phagocytosis *in Vitro*," which was discussed by Drs. Adolph Gehrmann, M. Milton Portis, Fenton B. Turek, and in closing by the essayist.

DISCUSSION ON THE JOINT PAPER OF DRs. ABELMANN AND OCHSNER.

Dr. John C. Hollister:—There are two or three minor points in connection with the technic to which I should like to call attention. Dr. Abelman spoke of the use of "U" tubes with which to collect the blood. A very convenient method, one which Wright himself uses, is to use a tube with one end of it drawn out to a fine point, while the other end is curved for about three-quarters of an inch. This gives us a little instrument with which we can stab the finger and, by breaking off both ends, we can conveniently collect the blood. When the clot has been thrown down into the straight end we have all the serum in one instead of two tubes.

Again he spoke of the test-tube being shaken in mixing the salt solution with the blood. Caution should be used in shaking the tube. The cream may easily be "broken up." It is best to invert simply two or three times. Thorough washing of the leucocytes is thus secured. Comparing the emulsions with different shades of barium chlorid solutions to obtain one of the right "thickness" is not as accurate as making a preliminary film, for one can not judge well about the clumping.

There are several questions of more importance than those I have spoken of. As a rule, it is quite necessary to make a culture of vaccine from the individual organism, which is the cause of the individual trouble in the individual patient. In other words, "stock" vaccines, with the exception of the tubercle bacillus and the staphylococcus, are not applicable. The gonococcus probably is to a limited degree; but of that we are not sure. Otherwise they are not applicable. If we have a streptococcus infection, we make a vaccine from the individual organism.

If this is the same case which Dr. Ochsner reported to the Chicago Surgical Society, I would like to bring up a point of the utmost importance. At that meeting I asked Dr. Ochsner what was the dosage of the vaccine given to this patient, and he said it was "the usual dosage of so many parts of a c.c. of a week's old culture of staphylococcus." In order to be accurate in this work, we must have a standard dose just as we have of any drug, but to give, as is done so many times by so many, fractions of a c.c. of a two weeks' culture of staphylococcus or streptococcus is like giving a teaspoonful dose of a drug, irrespective of whether it is a tincture or an extract, in that you have no idea of what your dose is. There are no two-week-old cultures of an organism that have the same number of bacteria in a c.c. The nearest we can come is to count the number of bacteria in a dose, and give a definite number. The virulence of one bacterium may be greater than its fellow next to it. In other words, 200,000,000 would not necessarily give the same dosage as the next 200,000,000 from the same bottle, but this method is as accurate as we can be to-day. The sooner we appreciate this the sooner will we come to an exact method of estimating the dose. If then anybody says he gives a certain amount of a week's old growth of a bacterium, you can criticize it at once, because that is not accurate dosage. There is nothing more inaccurate!

As to the therapy of mixed infections, this brings up the specificity of opsonins. Where a patient has several infections, the question arises whether he has a specific index for each organism. The more experience we have the more we feel he has a specific index, and thus agree with Wright. We have given two cases different vaccines at the same time—the colon, pyocyanus, staphylococcus and tuberculous—and it does seem that the index of the individual organism varies individually, and one index is not dependent upon another. If there is a dependence, we have not found rules governing the question. We have had several other cases where we have combined two or three vaccines, and we have found there is no relationship between the two. This feature we have not worked out definitely. There are some points in the literature regarding the absolute independence of leucocytosis and the opsonic index. An Englishman comes to the conclusion that there is no relationship between leucocytosis and opsonic index in tuberculosis.

So far as local reactions go, the staphylococcus gives as much local reaction in swelling and tenderness as any of the other vaccines. It seems more so. I do not know why.

I do not quite understand in this case of Dr. Ochsner which vaccine was given, whether it was staphylococcus or the bacillus, or both. The doctor spoke of this index line (referring to diagram) here, with dosage given at the bottom of the line, as being "mostly staphylococcus." Exactly what that means I do not know. I would like to know just where he began the mixed treatment and where he began the staphylococcus individually or with the bacillus.

Dr. Adolph Gehrmann:—I would like to inquire from the writers if from their systematic study of this organism they have determined the name of the species. As I understand it, it resembles the colon bacillus, and I would like to know whether it belonged to that group or not.

Dr. Abelman (closing the discussion on his part):—With regard to the matter of dosage spoken of by Dr. Hollister, I distinctly stated in my paper that one c.c. spindle contained 600,000,000 cocci, and the dose was regulated from each one of those spindles. In answer to the question of Dr. Gehrmann, its reaction resembled that of the colon bacillus.

Dr. Ochsner (closing the discussion):—I wish to say that in the discussion before the Chicago Surgical Society, referred to by Dr. Hollister, I was not explicit enough in my statement as to the dosage used. Dr. Abelman counted the number of bacilli in one cubic centimeter of the vaccine and regulated the dose in that manner.

In reference to the question of making the vaccine, I would say that the vaccine was actually made from the staphylococci and bacilli found in the pustules. We found the bacilli and cocci mixed at first, but we soon became aware of the

fact that the bacilli were identical with the ones described by Unna and Gilchrist, while the cocci seemed to be the ordinary staphylococci, but not until about six weeks ago were we able to get a pure culture of the bacilli and then make a pure bacillus vaccine. Up to that time we used a mixed vaccine, which, as a matter of fact, was very largely a coccus vaccine. As a consequence the opsonic index for the cocci went up, as represented in Chart I, and by the end of this time the mixed or cocci infection had practically been cured. As the cocci infection became better, the leucocyte count went down, but not to normal.

Unna, Gilchrist and others had described this bacillus as a pus-forming bacillus, and it may be added that it certainly caused leucocytosis. Chart II shows the change in opsonic index for the bacillus infection. The opsonic index for the bacillus is different from the opsonic index for the coccus. They do not seem to bear any relation to each other whatever. The opsonic index for the coccus has gone up to 1.7, while that of the bacillus stands at .35, so that the statement made by Dr. Hollister that the opsonic index for one micro-organism may not be at all the same as for another micro-organism is clearly demonstrated in this case.

We have used the same method of vaccination in some thirty cases of tuberculosis and in a few other cases, but, as you know, a case of surgical tuberculosis not secondarily infected is practically a self-limiting disease when properly treated, so that it is a little difficult to tell just what part the vaccination treatment has played in the cure of these cases. We can, however, say that the cases of surgical tuberculosis thus treated seem to have improved a little more rapidly than a similar number of cases previously treated without the vaccination treatment.

DISCUSSION ON PAPER OF DR. KNAVEL.

Dr. William Fuller:—We have been delighted with the exhibition of these slides and have been highly entertained by what Dr. Knavel has said about this interesting subject, namely, suppurative processes of the hand. From the demonstration we may learn at least one good lesson, which is this: In practically all cases, if an early and correct differentiation is made in the many forms of panaritium involving the hand, the pus accurately located and immediately and effectively drained, the necessity of subsequently removing bone epiphyses and the laying open of tendon sheaths, as mentioned by the doctor, will rarely be called for. Many cases, however, are not seen early, and others are not correctly understood or diagnosed, leading necessarily to wrong and misapplied surgical means and methods, which are responsible for results greatly disappointing to the surgeon as well as the patient.

It is my belief that the best results are obtainable in many severe phlegmons of the hand by looking for and draining from the palmar surface, regardless of the site of infection. Admitting that palmar scars are more or less objectionable, I believe that in a large majority of the cases, notwithstanding the extreme swelling on the back of the hand, that a careful search will reveal the true location of pus in the palmar structures, into which incisions must be made if the surgical measures are to avail much. The swelling which is often more pronounced on the dorsal aspect of the hand and finger in extensive suppurations are very misleading as regards the real seat of the trouble unless the anatomy of the hand is well understood. The very loose connective tissue to be found here leads to early and conspicuous swellings, and efforts to drain an extensive suppuration of the hand by incising in this area alone can rarely be anything but disappointing.

The second valuable point which I would like to emphasize is the circulation which should always be borne in mind when incisions in close proximity to important vessels are required for drainage, or when a destructive inflammatory process is going on here. It is a fact known to all surgeons that ligation in continuity of the radial or ulnar artery will not control hemorrhage from either the superficial or deep palmar arch, owing to the free communication between the arches. Indeed, ligation of both the radial and ulnar arteries will not stop bleeding from the palmar arches, owing to the free anastomosis between the latter vessels and the interosseous vessels, and these, in turn, with the carpal arches.

It seems to me, therefore, that the control of hemorrhage from the palmar arches from whatever cause, whether it be from accidents in attempts at draining deep foci of pus in the palm or from inflammatory or destructive processes, could be most satisfactorily accomplished by the use of Esmarch's bandage, which, by rendering the field bloodless, enables the surgeon in directly ligating the bleeding point, and insures much greater possibilities of carrying out at once the other surgical indications.

DISCUSSION ON THE PAPER OF DR. RUBIN.

Dr. Adolph Gehrmann:—This is a very interesting paper. The writer has gone a little further than those who conducted a large number of experiments which were popular two or three years ago. By using hanging-drop specimens all manner of materials which were detrimental to micro-organismal life were tested and the limits of strength determined. Moulds, various amebæ and infusoria were used in the experiments, arranging them in hanging drops and observing whether the motility or growth would occur or continue to take place in solutions of various strengths. Dr. Rubin has extended his experiments a little further in showing a certain kind of activity in organisms rather than simply the growth of the organisms themselves.

There is one point of interest from a practical standpoint, and that is the bearing that this has upon the value of the alcohol treatment for infections which has been popular in some places. European literature particularly advocates the use of alcohol dressings, etc. The question has arisen in that connection whether it is some increase of phagocytic action that the alcohol dressings induce or whether it is the circulatory change. According to these experiments, it is more probably due to circulatory changes rather than to a change in the activity of the leucocyte.

Dr. M. Milton Portis:—This paper, which confirms some of the work in animals carried out by the same author in 1904, is of far-reaching import. We have known in the past that cold predisposed animals to infection. We have known that chronic alcoholism has laid our patients open to infections. We have noticed unfortunately that patients after taking an anesthetic develop pneumonia quickly, and in all this we have covered our ignorance over with the term "predisposition." I think this work of Dr. Rubin, as well as that of others, has given us a scientific basis for such observations.

Some years ago Cantacuzène experimented with opium and found that animals under the influence of this drug took typhoid infections and died, whereas guinea-pigs, not so treated, resisted the infection. Bessedka used trisulphide of arsenic and demonstrated infections by his experiments which were more serious when the animals were injected thus. We might mention other experiments and authors; those particularly quoted by the doctor in his early paper who came to similar conclusions with regard to the injection of other substances. Ether, alcohol and chloral were commonly used. There does not seem to be any doubt from the work done on animals and in the test-tube that we have a scientific basis for predisposition, as we called it before, and it would seem right that we should give some serious attention and study experimentally and clinically to the dangers of the use of our anesthetics; that we should study our patients who take particular drugs, particularly the chronic alcoholic cases, etc., and attempt in our therapy by eliminating, controlling or neutralizing, or whatever you may please to call it, to get better results than in the past.

Concerning the theory of the action of these substances, I am not favorably impressed with the theory of Moore and Roaf, that there is a combination of the cell proteids with the ether or chloroform, or whatever may be used, to form an unstable compound, as the doctor suggests, but I should rather say, and it would be more strictly modern, that the phenomenon has something to do with the opsonins, and I would suggest that the doctor try the opsonic index in such cases to see how it varies with these various injections; whether the drug has a retarding effect upon the opsonin or enters into combination with the opsonins. The work of Wright should throw some light on this chapter.

Dr. Fenton B. Turck:—I am very much interested in this subject. The paper is suggestive and contains many valuable points in modernizing the previous work that has been done on this line. A report of my experiments, with reference to my previous work, was presented before this Society in 1903. The work represented a large number of experiments on animals with chloroform and ether, both having been administered from one to six hours, and then examining the sera. We found in our experiments there was a great difference in the precipitins and agglutinins, and we found the hemolysins were considerably developed, so that the blood-serum lost its protective power. We digested portions of the tissue in the serum of the animals thus experimented upon and found that autolysis took place inside of six hours. If we added a ferment it would be digested in two or three hours. We demonstrated the effect of the anesthetics upon the serum as well as on the cells. To determine the points of excretion and effects upon cells I dissected off the mucosa of the stomach and intestines and distilled the material and obtained chloroform from the stomach and intestines. First, I plugged the esophagus, so that no chloroform could get into the stomach through the esophagus, and we found that a large amount of chloroform was excreted by the stomach and intestine, and ether the same way. This showed the saturation and method of excretion, which produced a destructive effect also on the gland cells. It is interesting to notice the interference with what we may term the protective power of the serum. As my work was in line with this discussion, I thought I would take this occasion to mention the interesting points that I have been working on for many years.

Dr. Rubin (closing the discussion):—Dr. Hektoen and Dr. Ruediger experimented in a similar manner with different salts and formalin, and they have practically come to the same conclusions I have in regard to phagocytosis *in vitro*.

I am very glad to have had the experiments described by Dr. Turck, as they agree with the conclusions I have drawn, and they also agree with the work of Metchnikoff and others.

THE INFLUENCE OF ALCOHOL AND CHLOROFORM ON PHAGOCYTOSIS *IN VITRO*.*

GEORGE RUBIN, M.D.

ABSTRACT.

The author shows by his experiments how alcohol and chloroform, when added to defibrinated blood containing leucocytes, impair the phagocytic functions of the latter when mixed with various bacteria. Phagocytosis may be entirely suspended when the dose of the narcotic reaches a certain point. He refers to his previous experiments *in vivo* (*Journal of Infectious Diseases*, May 30, 1904), which correspond very well with the present experiments *in vitro*. The author believes that the fixed phagocytes (nerve cells, epithelial cells and others) are similarly affected. He agrees with the conclusions of Roaf and Moore (Proceedings Royal Soc., vol. lxxiii), who have experimented extensively with various anesthetics and protoplasm. They found that the agents decrease cell activity and that when the narcotics are pushed to a certain degree all signs of life are obliterated.

Regular Meeting, April 3, 1907.

A regular meeting was held April 3, 1907, with the President, Dr. George W. Webster, in the chair. Symposium on gastrointestinal diseases: "The Close Relationship of the Stomach and Intestine to Other Organs," by Dr. Fenton B. Turck; "The Eye in Its Relation to the Stomach and Intestine," by Dr. Casey A. Wood; "The Mouth, Nose and Throat in Their Relations to the Stomach and Intestines," by Dr. Otto J. Stein; "Metabolism as It Is Affected by Disorders of the Stomach and Intestine," by Dr. Ralph W. Webster. The symposium was discussed by Drs. Julius Grinker, W. F. Coleman, A. L. Deriger, Carlos Montezuma, J. Holinger, and the discussion closed by Dr. Turck. Adjourned.

* From the Pathological Laboratory, Rush Medical College, University of Chicago.

DISCUSSION OF THE SYMPOSIUM ON GASTROINTESTINAL DISEASES.

Dr. Julius Grinker:—In view of the new trend in neurology and medicine which seeks to explain symptoms by toxemia emanating from gastrointestinal fermentation, this discussion is to be welcomed. It is regrettable that not more of the fundamental experimental work is being done by our members. However, it is well to have made a beginning. Neurologists who have long ago recognized the great value of proper feeding in nervous diseases are particularly interested in the labors of the workers on gastrointestinal and metabolic disorders. We hope that some day physiological chemistry will shed light on the origin of many of the hitherto obscure neuroses and psychoses.

Dr. W. F. Coleman:—Dr. Wood has so well delineated the effect of stomachic and intestinal disorders on the eye that I can not add anything more to that phase of the subject. It is quite appropriate, however, to consider the effect of eye conditions upon the stomach. I believe that a pair of spectacles will not cure snake bite or appendicitis, but that glasses may relieve certain stomach conditions there can be no question. For instance, it is not unusual for the oculist and others who are observant to find quite a number of people who are unable to read for any length of time without nausea and occasionally vomiting. But there is one important condition of which we are told by the neurologist there is no known pathology, that treatment is symptomatic, and that all treatment recommended for it from spectacles to quack nostrums is futile, and that is migraine hemi-erania, blind headache, sick headache or scintillating scotoma. The time is too limited to go into details, but I think the delineation of one typical case will show the relationship between the eye and the stomach symptoms. Before citing this case I think the influence of eye-strain, due to errors of refraction chiefly, and occasionally muscular imbalance, upon the nervous system is admitted in these latter days.

Some fifteen years ago an oculist by the name of Sinclair (Chicago) wrote an able paper on ocular headache. A prominent neurologist denied that the eye was responsible for headache, maintaining the cause was neurasthenia and that the eye-strain had nothing especially to do with it. That same oculist to-day says, in a published article, that 80 per cent. of all headaches he has to deal with are due to eye-strain. So far as my own statistics go, in three or four hundred cases, after sending out inquiries two to three years following the fitting of glasses, I found that 80 per cent. were completely relieved of their headaches, 10 per cent. incompletely, and 10 per cent. not improved. I think we can reasonably say that America is the neurasthenic country of the world, and that Chicago is the head center. Admitting that neurasthenia is the basis of so much headache, if we still further admit that the exciting cause may come from eye-strain, we have a good working hypothesis, if we can relieve the headache by directing attention to the treatment of the eyes. Let me cite a case.

A patient, a merchant by occupation, 45 years of age, consulted me in April, 1893, stating that he had sick headache during his whole lifetime. It occurred every two weeks to two months; it was accompanied by pain in his eyes, and continued from six to eight hours, followed by vomiting, which continued for two or three hours. There was no scintillating scotoma. At first the headache was generalized, but in recent years unilateral, on one side or the other. With general headache, vomiting occurred two or three hours, with unilateral three to four later. Heredity in his case was marked, in that both his mother, sister and brother suffered all their lives from similar headaches. The headache was so violent that it was necessary for him to go to bed and remain there for one or two days after the onset of the attack. He was wearing a pair of glasses, mixed astigmatic for the right eye and simple myopic astigmatic for the left eye. It should have been reversed. He had worn the glasses for nine years with perfect comfort, so far as his eyes were concerned. There was no muscular imbalance, so this case was not ophthalmoplegia. On examination, I found he required a change of ten degrees in the axis of the cylinder in the right eye and a difference of five degrees in the left eye, finding the right eye with simple myopic astig-

matism and the left eye with mixed astigmatism. I put on correction, and on account of his age used a spherical glass of one D. for reading and instructed him to use distant glasses constantly. He returned to me in one month from this time, saying he had one slight headache, and two years later he reported that he had not had a single attack since the one mentioned above.

Dr. A. L. Derdiger:—The remarks of the last speaker have prompted me to say a few words, owing to my interest in ophthalmology. I have had a great many years' experience in the practice of my profession, and have given a good deal of attention to eye-strain, and I have found that there are a large number of people who suffered from chronic dyspepsia who have been relieved by properly fitted glasses. The time at my disposal this evening is too short to detail many cases. I was particularly interested in the papers read both by Dr. Turk and Dr. Casey Wood. It seemed to me that very little was said with reference to the percentage of errors of refraction that are uncorrected as a cause of stomach trouble. I was particularly interested in that phase of the subject, for I have been collecting statistics along this line for quite a while. I have been reading in the last few years the interesting articles of Dr. Gould, of Philadelphia, who has ably discussed the influence of eye-strain in causing headaches and other discomforts.

A prominent business man of this city consulted me a year ago with reference to his eyes. I examined them and found he had an error of refraction, an oblique mixed astigmatism in the right eye and an oblique simple hypermetropic astigmatism in the left. He complained of biliousness, and he was unable to determine whether the stomach trouble was due to the eye trouble or eye-strain, or *vice versa*. Not assuming too much responsibility, I said we will determine this by correcting the error of refraction fully and examining the muscles of the eye to see if, after correcting the error of refraction, we might also relieve the spasm of accommodation and the stomach trouble. Of course, I did not say that the condition of the eyes caused the stomach trouble. To my surprise, however, the patient wore his glasses for about eight days and said that he had not had an attack of biliousness since one year ago, when he began to wear these glasses, which was something unusual, because he had them regularly and frequently before. This is one example of many as to what is being done along this line.

Dr. Coleman has alluded to the fact that some years ago a noted oculist disbelieved the theory that ocular affections caused nervous trouble or stomach trouble, and that now that same oculist was a great believer in the theory of eye-strain or ocular affections causing nervous diseases. In this connection I wish to say that in June, 1904, I read a paper, "Nervous Diseases and Eye-strain," before this Society, which was discussed by Dr. Grinker, who maintained that migraine had nothing whatever to do with eye-strain, and that migraine could not be cured by properly fitting glasses. At that time I cited cases to show that relief could be afforded in this way, and, if time permitted, I could report a number of cases this evening to that effect.

Following is a brief description of the case I referred to:

The symptoms of which Mr. W. F., aged 46 years, complained when he consulted me, about one year ago, persisted, with the exception to be noted, since 1900.

They were pains in the eyes and a drowsy sensation after reading a short while, a smarting, burning feeling when looking at pictures; gastric symptoms were pain in the abdomen, constipation, eructations, sour stomach. The patient felt depressed and despondent at times—he would give abrupt answers to civil questions, which was not in keeping with one of our foremost business men of Chicago.

He would have sleepless nights for a week at a time. After following without relief the treatment of an eminent practitioner, the patient took a trip to Europe, visiting a famous mineral springs. During his sojourn he was apparently feeling well, but upon his return to his work his trouble began as heretofore. A specialist in diseases of the stomach was now consulted. Hyperchlorhydria was found, the usual treatment was given and strictly adhered to by the patient for

over one year. These manipulations gave relief at first, but after a time the symptoms returned. The family physician took charge of this case now, and after a thorough physical examination the patient was put under treatment for some time, when this practitioner advised the examination of the eyes by an oculist of twenty-five years' experience and a professor of ophthalmology in a post-graduate college. The patient told me that this oculist dilated his pupils, fitted two pairs of glasses (for reading and distant use) and treated the muscles of his eyes, with prism exercise three or four times a week, fifteen to twenty minutes each time for five months in succession, during which time the patient derived considerable benefit for the eyes and stomach, but as soon as the treatment was discontinued the gastric and eye symptoms returned. A few months later the patient presented himself at my office for consultation, saying that he wanted to know if it was necessary to resume the rhythmic exercise with the prisms in order to obtain relief for his intense suffering with his eyes and bilious attacks. Examination with his glasses on was as follows: Distant glasses—Right eye, + 75, axis 90, vision equaled 20/25; left eye, + 50, axis 90, vision equaled 20/35. Reading glasses were: Right eye, + 1.00 + 75, axis 90; left eye, + 1.25 + 50, axis 90. I found upon examining the eyes the first visit without a mydriatic right eye vision equal 20/45, with + .50, axis 90, vision equal 20/35; left eye, vision equal 20/30 with + 50 + 75, axis 90, vision equal 20/30. Second visit, same amount of defect was present, together with 1° of left hyperphoria and 2° of exophoria. Third visit, adduction, 35°; abduction, 8°; sursumduction, 5°. The above examinations were repeated six times during one week, the findings being different at each examination. On the seventh day hemotropin was used, which gave the following results: Right eye vision equal 20/60, with + 50 cyl. axis 105 combined with — 50 cyl., axis 15; V. = 20/20. O. S. + 1.00 cyl. axis 75. V. = 20/20, or normal vision. The patient was ordered to call the next day, when the subjective and objective tests—that is, with trial lenses and ophthalmoscope and retinoscope—gave the same results as the day before. Two more tests being made two days after the use of the mydriatic. All the muscle tests were made again, which showed a considerable decrease in the muscular insufficiency and in the spasm of accommodation which had previously existed. Ordered for reading: O. D. + 75 + 50, axis 105. O. S. + 1.25 + 1.00, axis 75. Jaeger's No. 60 finest print could be read with ease. Books and newspapers could be read for hours without distress to the eyes or stomach. Eight days after, the patient wore these glasses the stomach and eye trouble disappeared and, though over one year has elapsed, there has not been a return of the disturbance.

Conclusions.—After comparison of the family history and physical and mental conditions in many cases treated, many of whom had previously been under some form of treatment, I venture the following propositions:

First.—Many cases treated by the neurologist, gastrologist, gynecologist, surgeon and general practitioner may be relieved temporarily, but not until the existing eye-strain is relieved does a permanent cure take place.

Second.—The reason of failure by some oculists to cure these conditions is due to the fact of either, first, too great haste; second, carelessness; third, unwillingness of the patient to submit to more than a few short examinations, and, last but not least, to the financial question, as a comparison of figures will show in this case:

Time spent for previous general treatment, six years, cost of same, \$4,800; time spent at sanitariums and travel, eighteen months, cost of same, \$2,200; time spent with previous oculist, five months, twenty-minute visits, three times each week, expense of same, \$250; total amount paid out, \$7,250; total amount of time spent on the case by myself; fourteen visits of two hours each, at a cost of \$5 each, \$70; two pairs of glasses, \$10; total expense, \$80.

It is no wonder that the public is discouraged with medical treatment and resort to nostrums and all sort of faith cures.

Dr. Carlos Montezuma:—I do not think Professor Turck forgot the nervous

system in making his remarks. If we study carefully the internal organs, we will find that they have their limits of functional area within which to act.

I wish to say a few words with regard to the mechanical relations of the stomach and intestines to the different organs. From birth until we reach 10 or 12 years of age, our nervous systems are supposed to be quite normal. The nervous system is normal, or perhaps supernormal; sometimes it is governed by our habits. That being the case, I believe habit is an important factor, in that it produces a mechanical disturbance and alters the nervous equilibrium. Therefore, habit probably comes in first, so producing distention of the stomach, distention of the bowels; and with this distention there is impingement upon the blood vessels and nerves; the functional metabolism throughout the body is impeded by these abnormal mechanical conditions. The feeling of fullness or perhaps pain in the stomach came under the law of distension—occlusion of Nature's channel of elimination—which gives us innumerable symptoms. We speak of micro-organisms as causing gastrointestinal diseases, but we forget the law of mechanical physiology, and that is the one point I particularly wish to emphasize.

Dr. J. Holinger:—Dr. Grinker touched a question which arises every day in the treatment of diseases of the pharynx. It is the neurologists who try to attribute to the nervous system diseases which have a local finding. They diagnose, for example, hysteria or neurasthenia in patients who complain of foreign body in the throat, and on examination we find the whole naso-pharynx and pharynx full of granulations and parched. The globus hystericus, or the feeling of a foreign body in the throat ought not to be ascribed to nervous disease when all objective signs of pharyngitis are present. As a matter of fact, we know that the feeling of a foreign body in the throat is a part and parcel of chronic and acute inflammations of the throat, just as the feeling of sand in the eye is a part and parcel of a conjunctivitis. It was my experience that when I send such patients to have their stomachs examined they return with the report that there is nothing the matter with the stomach. This has happened to me repeatedly. Still, the treatment of a chronic pharyngitis is not likely to afford complete relief unless we pay some attention to the stomach. In these conditions I never fail to carefully inquire into the diet of the patient and his habits, his method of eating and working, particularly working overtime and allowing his mealtime to pass without satisfying the normal appetite, and perhaps later partaking of a hasty and hearty meal. In other cases a few drops of muriatic acid serve the purpose. Many cases of chronic pharyngitis, with distinct local findings, are wrongly ascribed to nervous disorders and will give prompt results by local treatment combined with a careful regulation of the diet and digestion.

Dr. Turek (closing the discussion):—The object of this symposium was to bring together men with scientific experience, who have made investigations, and who are, therefore, capable of thoroughly taking up each subject, irrespective of their own specialty, and of presenting before the society the entire subject and bringing up to date our present knowledge of the relation of the gastrointestinal tract to other organs.

Dr. Wood, in discussing the subject of the eye in its relation to the stomach and intestines, presented the subject very clearly and showed some interesting relations of great importance, and Dr. Stein discussed in an admirable way the mouth, nose and throat in their relations to the stomach and intestine. All of the gentlemen who have taken part in the symposium have done so without going into theoretical discussions of what they believe or think. They have presented their observations based on personal experience, and added what they gleaned from the literature. Dr. Webster has given you an able paper in which he has presented the general metabolism as it is affected by the disorders of the stomach and intestines, bringing the literature of the subject up to the present time. It is only when we undertake experimental research, together with experience derived from bedside operations, that we are enabled to place these subjects on a scientific basis, and thus outgrow pure empiricism, and that was the object of the symposium in bringing out such a discussion.

There is a relation between the nervous system and intestines which we do not at present clearly understand. The psychic effects are beyond our knowledge. We have no right to assume a certain unknown relationship in the causation of the diseases we have had under discussion. Undoubtedly the nervous system bears close relation to the other organs in the production of disease, but we have not had as yet a clear or definite understanding derived from direct experimental knowledge so as to be positive in determining the direct relationship.

Pawlow resected both vagi and noted but slight changes from the normal digestion. Ducceski of Rome resected both vagi and dissected out of all the nerve supply to the stomach, and digestion appeared undisturbed. In the March issue of *Surgery, Gynecology and Obstetrics*, there appears an interesting article by Dr. Leo Buerger and Dr. J. W. Churchman, in which it is stated that in Professor Garré's clinic they dissected the entire mesenteric ganglion without affecting the stomach or the intestines. And so in our experimental work we have found that the nervous system apparently does not have the influence we used to think it had. On the other hand, there is a good deal of empirical knowledge as to the psychical effect on the digestive apparatus. But it is our object to place these subjects on a scientific basis and to present, so far as we are able, the facts connected with them. In this connection I want to point out the fact that many of the diseases we used to think were of nervous origin are not now so considered.

But we are anxious to know more about the nervous system and nervous diseases, so as to be able to raise the standard of our knowledge, and in proportion as we make scientific advances in other departments of medicine and surgery so will the nervous system be raised to a higher level of knowledge. We can only do this by experimental research work and by reporting our observations and experiences from time to time. I wish to say that we are not here for the purpose of opposing each other, but to raise the standard of medicine and surgery to a higher scientific level, in order that we may be able to do more for humanity.

EDGAR COUNTY.

The Edgar County Medical Society held its annual meeting at the Carnegie Library, April 24, 2 p. m. The society was called to order by the president, Dr. Jones. Members present: Drs. Hunt, TenBrooke, E. O. and C. S. Laughlin of Clinton, McCord, Baum, Lyeon, Roberts, Fuller, Haugther and Buehanan of Paris, Kerrick of Chrisman, Jones of Redmon and Evinger of Nevins. The following officers were elected for the ensuing year: E. O. Laughlin, president; C. L. Kerrick, vice-president; W. A. Buehanan, secretary, and George H. Hunt, treasurer.

It was moved and carried that the annual dues be increased from \$2.50 to \$3.00. A motion was made and carried that the president, secretary and treasurer act as executive committee. A vote of thanks was given to Hon. Clay L. Ganner for his courteous reply and promise to support the interests of the profession in house bills Nos. 66, 318 and 319.

Dr. Fuller read an interesting paper on the subject "Tonsils and Adenoids, Indications for the Removal, Repeated Attacks of Inflammation, Rheumatism, General Septic Condition, Primary Tuberculosis, Chorea, General Catarrhal Condition," etc. In fact, the writer recommended the removal of all tonsils, both large and small, that had been subjected to repeated attacks of inflammation. The paper was followed by an animated discussion by all members present, after which the society adjourned until the next regular meeting in July.

HANCOCK COUNTY.

The Hancock County Medical Society met in the north jury room at 1:00 p. m. The society was called to order by S. M. Poor, president. Members present: S. M. Poor, J. H. Callahan, J. T. Jenkins, R. R. Loomis, L. D. McClure, G. E.

Pumphrey, C. A. Runyon, W. P. Frazier, R. R. Roberts, Wm. Rankin, Wm. Blender, Earl Cooper, R. E. Valentine, L. C. Taylor, D. W. Humphrey, E. M. Ransom, L. N. Tate, A. L. Colburn, H. H. Sherwood, J. E. Camp, C. L. Ferris, also Charles Wilkins of Nauvoo, B. Keely of Ferris, G. W. Jones of Keokuk, Iowa, and J. H. Coulter, president of the Lee County Medical Society, State of Iowa. R. R. Roberts read a paper on "Medical Ethics." Discussed by J. E. Camp. E. M. Hanson read a paper on "Amblyopia." Discussed by G. W. Jones. Senator O. F. Berry was present by invitation and made a talk on the prospective legislation at present session of legislature and stated that he would be glad to learn of the sentiment of the society on these matters. By motion the president appointed a committee on resolutions, consisting of Sherwood, Pumphrey and Ferris. L. N. Tate read a paper on "Influenza." Discussion by Hanson, Runyon and Valentine followed. Chas. Wilkens of Nauvoo and B. Kelley of Ferris were elected to membership. Election of officers followed: President, R. R. Roberts; vice-president, G. E. Pumphrey; treasurer, L. D. McClure; secretary, C. L. Ferris; censor, S. M. Poor; delegate, J. T. Jenkins. The committee reported a resolution recommending the purchase by the state of the College of Physicians and Surgeons in Chicago; recommending appropriations for the epileptic and tuberculosis colonies; opposing the proposed amendment to the law governing the practice of osteopathy in the State; opposing the anti-vivisection bill; opposing the proposed change of the law regulating patent medicine vendors. Resolutions were adopted and it was voted that a copy of the resolutions be sent to Senator Berry and Representatives Harris, Jewell and Califf.

JACKSON COUNTY.

The regular monthly meeting of Jackson County Medical Society was held April 18, 1907, in the Logan House Parlors at 2 p. m. The following members responded to the roll call: Drs. McAnally, Mitchell, Keesee, Davis, Ingram, Molz, J. C. Atherton, Roth, Tweedy, Hosstman, Grizzell and Foster. The society appeared before the Board of Supervisors of Jackson County to advocate the abolishing of the office of county smallpox and pauper physician. By a vote of 10 to 7 the pauper practice of the county was thrown upon each township. No papers were read and no clinics held on account of the late hour. Dr. J. Keesee was elected delegate to the state meeting and Dr. McNally as alternate.

LIVINGSTON COUNTY.

The thirteenth semi-annual meeting of the Livingston County Medical Society was held in Pontiac May 2. Thirty-five members were present and the meeting was a success in every way. J. B. Baker of Pontiac was elected president; L. R. Allen of Forrest, vice-president, and John Ross of Pontiac, secretary. J. G. Barnhizer of Forrest and David Littlejohn of Pontiac were elected to membership. W. L. Rabe of Dwight was reinstated in the society.

The program was one of the best ever presented to the society, and every subject was fully discussed. Fractures, J. J. Pearson, Pontiac; Asepsis in the Obstetric Work of the General Practitioner. Thos. Bath, Bloomington; The Duty of the Physician to Himself and to His Fellowmen, J. A. Colbourne, Pontiac; Two Cases of Traumatic Tetanus in the Same Family, C. C. Hunt, Dixon; President's Annual Address, G. C. Lewis, Fairbury. J. D. Seouller of Pontiac was elected the delegate to the meeting of the state society. The physicians of Forrest extended an invitation to the society to meet with them in November and the society accepted the invitation.

MACOUPIN COUNTY.

The Macoupin County Medical Society held its annual meeting and election of officers at Carlinville in the Masonic Reading Room April 23. Those present were R.

S. Cowan, R. J. Mitchell, A. H. Simmons, J. H. Riffey, Gird, D. A. Morgan, Nilwood, J. S. Collins, S. H. Carr, J. P. Denby, C. J. C. Fischer, J. P. Matthews, J. Palmer, Matthews, J. H. Davis, F. M. Wood, Carlinville, J. N. English, Charles D. King and Dr. Gross of Gillespie, H. A. Pattison of Benld and George Cowan of Granite City. Dr. F. A. Renner of Benld was proposed for membership by Dr. Pattison and was unanimously elected. The treasurer's report shows \$1 received and a bill for printing of \$1.50 allowed since last report.

The morning session was devoted to reports of cases. Dr. Matthews reported a case of death in a woman five months pregnant. Dr. Gross reported a case of recurrent German measles with faucial inflammation and a false membrane resembling the angina of diphtheria with a rash on the body accompanied by fever. Dr. Collins reported a case of persistent vomiting in a pregnant woman, premature labor with death of mother and child. There were symptoms of acute gastritis with congestion of the portal circulation and hematemesis. Dr. Denby reported cases of obstruction of gall duct, operation established drainage, post-mortem revealed cancer of the pancreas, with suppression of bile.

Dr. Denby reported a postmortem on a case with a dilated right heart where the clinical symptoms were of angina pectoris and emphysema and severe asthmatic attacks. In this case there was albuminuria with general sclerosis of the arteries. Dr. Fisher reported a case of strangulated hernia relieved by a radical operation.

The censors reported Carlinville the next place of meeting. The following officers were elected: President, Dr. Gross of Gillespie; vice-president, Dr. J. B. Denby; secretary-treasurer, Dr. J. P. Palmer; committee on medical defense, Dr. J. S. Collins; program, Dr. F. A. Renner, to choose his own subject; E. K. Lockwood and Dr. Aubuchon, continued.

At the afternoon session our district councilor, Carl E. Black, addressed us and read a paper on carcinoma uteri. He illustrated his remarks by some interesting pathologic specimens. Motion made by Dr. Matthews that the paper of Dr. Black be received with the thanks of the society. Dr. Kreider then gave his address on "Congenital Fistula of the Ano Sacral Region," which was received with the thanks of the society. The discussion of these papers then followed. Pending the report of the Board of Censors, the members of the Macoupin County Board of Pension Examiners present reported a case of congenital fistula of the ano sacral region which came before them for examination in a soldier who had had typhoid fever.

MENARD COUNTY.

The banquet of the Menard County Medical Society at the Smoot Hotel, May 2, 1907, in honor of Dr. J. K. Newcomer, was a grand and unprecedented success. Dr. A. L. Brittin of Athens acted as toastmaster. Several toasts were responded to by physicians from various parts of the county. The purpose of the banquet was fittingly expressed in the following words which were printed on the front of the menu card: "A Banquet in Honor of Dr. J. K. Newcomer, in Recognition of His Loyal and Devoted Services in the Medical Profession in Menard County for More than Forty Years."

The first toast of the evening was responded to by Dr. J. F. Percy, Galesburg, President of the Illinois State Medical Society, on "The Medical Profession of Illinois, Its Past, Its Present, Its Future, Its Duties and Its Responsibilities." In an eloquent and forceful manner Dr. W. A. Mudd of Athens responded to the toast, "The Medical Profession of Menard County." Dr. Mudd went into the history of the profession and interspersed his address with many interesting stories and facts. "The General Practitioner" was responded to by Dr. J. D. Whitley of Petersburg. Mrs. A. L. Brittin of Athens sang a solo. Dr. B. W. Hole of Tallula spoke on "New York and Baltimore as Centers of Medical Teaching." "Ideals in Medicine" was the subject of the toast of Dr. J. W. Newcomer of Petersburg, in whose honor the banquet was given.

In a most eloquent and interesting manner Dr. J. P. Meyers, the oldest physician of the county, responded to the toast, "Our Honored Guest, J. W. Newcomer, as I Have Known Him for More than One-third of a Century." This address was listened to with the utmost attention by every one present, and the speaker is to be congratulated upon the masterful manner in which he handled his subject.

Impromptu remarks were made by Dr. S. T. Hurst of Greenview. The Rev. John Boden, pastor of the Presbyterian Church of Petersburg, delivered the invocation. Music was furnished during the banquet by the Old Salem Orchestra.

Those present were: Drs. Hurst, Hammil and Eldredge of Greenview, Drs. Mudd, Hill and Brittin of Athens, Dr. Meckinson of Oakford, Drs. Taylor, Hoke and McIntosh of Tallula, Dr. T. C. Hill of Sweetwater, Drs. Newcomer, Myers, Whitley, Chenery and Rothert of Petersburg, Dr. J. C. Fisher, formerly of Petersburg, now of Decatur. The wives of the doctors were present to enjoy the festivities.

MORGAN COUNTY.

The Morgan County Medical Society held its regular meeting at the Library in Jacksonville April 11, 1907, at 8 p. m. President Dr. E. L. Crouch in the chair. Eleven members present. The minutes of the last meeting were read and approved. The applications of Drs. C. W. Fortune and E. W. Gardner of Liberty for membership in the Morgan County Society were read. Dr. Hairgrove cited a case of abscess of brain with specimen. The paper of the evening was by Dr. Hardesty on "Eclampsia."

Dr. Black, as chairman of the committee which was appointed to draw up a new and better health ordinance for the city of Jacksonville, made a report of the committee's work. Papers for May 9 are: Dr. Byron Gailey, on "Ear and Nose Complications of Influenza;" Dr. Cole, "The Pulmonary Complications of Influenza."

ALLEN M. KING, Secretary.

CASE OF ABSCESS OF BRAIN.

JOHN W. HAIRGROVE, M.D.

JACKSONVILLE.

C. W. C., age 43, railroad section foreman, height 5 ft. 9 in., weight 160. Family history negative.

Personal History.—Always used to hard labor. Married and has four healthy children. Bowels are slightly constipated. Appetite good. Denies venereal disease. No trace of syphilis.

I was first called to see him at his home on February 24, where I found him confined to his bed, suffering from an intense headache which was limited to the right temporal and supra-orbital region. He stated that he had the headache upon wakening in the morning. There was no fever and the pulse rate was 58. He stated at this time that he had been subject to severe headaches as long as he could remember and had been treated by many doctors therefor, but of late he thought they were becoming more frequent and severe. He had not, however, lost any time from his work. In addition to the above statement, he said that he always slept well at night and would often go to sleep when sitting down during labor hours, would go to sleep any time or anywhere, but was easily aroused. Some doctors had told him that he had "the sleeping disease." He was given at this time a tablet of acetanilid, caffeine and sod. bicarb. and asked to report their effect. I was not again consulted until March 13, seventeen days from my first visit. He came to my office, being obliged to leave his work for the first time on account of the severe headache. While waiting for me he fell asleep in his chair, but was aroused with slight difficulty to take his turn in the office. He now stated that he had received considerable relief from the first prescription, but that it had finally failed to alleviate the frequently recurring attacks. A slightly different formula was at this time prescribed, and he was advised to remain at his home and do no work for a time.

On March 19 he again called at the office, when he was given a prescription containing K. I. 8 gr., t. i. d. He was further advised to consult the oculist, Dr. Byron Gailey, for an examination of the fundus of the eye and also the ear from which he claimed to have had a slight discharge some two months previous. The examination proved to be wholly negative in its results. From this time until March 23 he went about as usual, though he had not yet returned to his work. After rising on the morning of the 24th he fell from his chair as if in a faint, was put back to bed and lapsed into profound slumber similar to those formerly experienced. I saw him a few hours later, as he could not be roused as readily as heretofore. As the day advanced the pulse rate increased rapidly till more than 80 and the temperature reached 102. The patient moved all the extremities alike. The pupils were small, as they had been throughout our observation. The symptoms all became intensified as the day advanced, the patient could not be aroused, the breathing was deep and stertorous. At the time he was advised to consult Dr. Gailey, brain tumor was suspected, but on the 24th it was thought rather to be an abscess. There had been no focal symptoms to assist in the diagnosis. Operative measures were considered, but, in the absence of localizing symptoms and the fact of rapid increase of temperature and pulse, the attempt was thought inadvisable. On the 25th and 26th the temperature gradually increased to 106 and an hour before death was 108 $\frac{3}{5}$. He died at 10:30 a. m. and at 12 noon, when autopsy was held, the temperature was still 108 $\frac{3}{5}$.

AUTOPSY.

The calvarium was removed in the usual way. There was no adhesion of the dura nor sign of meningitis. There appeared slight bulging of the right hemisphere, but the tension was not much changed. No pathological condition could be made out from examination of the cortex. Attempting to remove the brain entire, no event arose until, lifting it from the posterior fossa, a stream of pus poured out from the region of the mastoid, but intra-dural. The abscess seemed to have previously been ruptured from a sac-like wall and was located in the temporo-sphenoidal lobe. At the time the autopsy was held it was ascertained from relatives that, some fifteen years before that, the patient had been thrown from a horse, receiving injuries from which he had remained unconscious for two days. Whether this may have been the cause of the abscess is left to conjecture.

NORTH CENTRAL ILLINOIS MEDICAL ASSOCIATION.

The thirty-third annual meeting of the North Central Illinois Medical Association was called to order at the courthouse at Ottawa by the President, J. J. Pearson of Pontiac, Tuesday, Dec. 4, 1906, at 10:40 a. m. The roll call of members was dispensed with, but the following members were present: Wm. O. Ensign, Dromgohl, Weis, G. A. Dicus, W. P. Marshall, J. J. Pearson, J. C. White, Pike, Pettit and Hamilton. Dr. Weis, on behalf of the profession of Ottawa, welcomed the Association. Dr. Pearson, president of the Association, responded. The minutes of the previous meeting were then read and approved as read. Moved by Dr. Weis that the Secretary be instructed to furnish a copy of the minutes within thirty days to the State Medical Society, including Dr. Ensign's Historical Report. Carried.

Moved that the amendments to the constitution be laid over until later in the meeting. The applications of Dorsey Alfred Harwood of Ransom, Homer Allison Millard of Minonk, William Penrad Marshall of Long Point, Harry S. Lester of Streator, and Albert Charles Purcell of Streator were referred to the Board of Censors. The Board of Censors being absent, the following doctors were named as board *pro tem.*, Wm. O. Ensign, Hamilton and Gorden. The Board of Censors reported favorably upon the above applications and the Secretary was instructed to cast a ballot for Drs. Harwood, Millard, Marshall, Lester and Purcell for members of the Association, and their names were entered on the roll of membership. The Committee on Necrology reported that there had been no deaths during the year. The treasurer's report was then read and referred to the Board of Censors.

Dr. Wm. O. Ensign of Rutland then entertained us with a paper, "Medical Organization and the North Central Illinois Medical Association," in which he gave a sketch of the lives of the fifteen original members of the North Central Illinois Medical Association and presented a portrait of each member, which was not only exceedingly interesting, but of great value for medical history. It was then moved and carried unanimously that Dr. Ensign should furnish a complete copy of his paper to the Secretary in order that it might be entered in full upon the minutes of the Association and thus preserve a copy for future reference and that the paper should also be published in full in the STATE MEDICAL JOURNAL.

AFTERNOON SESSION, TUESDAY.

Called to order by the President. Dr. F. C. Robinson of Wyandot read a paper on "Reminiscences of a Country Physician." He related many interesting things concerning the troubles of a physician's life in rural districts thirty-four years ago. In the discussion which followed, Dr. Ensign moved that that portion of Dr. Robinson's paper describing what he knew personally of his early teachers in Rush Medical College be rewritten and placed in the hands of the Secretary. Carried.

Dr. C. H. Hamilton of Dwight read a paper on "Alcohol and Life Insurance." He claims alcoholism and tuberculosis cause 30 per cent. of all deaths. Alcoholism ranks next to syphilis in producing arterial sclerosis. The steady every-day drinker is the one who, according to Lumas, develops Bright's disease, and the habitual daily user to any extent ought not to be admitted for insurance. Reformers after five years are eligible if otherwise all right. The just basis for insurance would be to make a cheaper rate for the teetotaler. A lengthy discussion followed by Dr. Weis, Lewis and Patrick of Chicago, Kaiser and Sanger Brown, who thinks neuritis is often not neuritis, but cell disturbance, and that alcohol is not the cause of tabes and apoplexy as is often thought.

The applications of Drs. Ralph Gates Cressman, Oglesby (283), and Albert Lester Stebbins (284), Marseilles, were read and referred to the Board of Censors. Five minutes' recess was declared in order to select a nominating committee, visitors and members to register and members to pay dues. Meeting was called to order and the applications of William Stokes Sterritt of Marseilles (285) and D'Orsey Hecht of Chicago (286) were read and referred to Board of Censors. Dr. Charles D. Thomas of Peoria read an instructive paper on "The Disease of the Frontal Sinus." Discussion by Drs. Guthrie, Hecht and Sanger Brown of Chicago. Dr. J. F. Percy of Galesburg, President of the State Medical Society, read a paper on "The Borderland of Insanity," which was extensively discussed by Drs. Hecht, Steller, W. P. Marshall, Sanger Brown and Percy.

The Board of Censors reported favorably upon the applications of Drs. Ralph Gates Cressman, Oglesby, Albert Lester Stebbins, Marseilles, William Stokes Sterritt, Marseilles, and D'Orsay Hecht of Chicago. It was moved, seconded and carried that the Secretary cast the ballot for the four doctors as members of the Association. The Secretary having performed that duty, they were declared elected and their names ordered placed upon the roll of membership. Dr. Pettit then announced that the visiting members would meet at 7 p. m. at the Ottawa Tent Colony, where they would be entertained at banquet by himself and Dr. Butterfield. Moved and carried to adjourn to meet at 8 a. m. Wednesday.

In the evening the visiting members, together with other invited guests from Ottawa and elsewhere, responding to Drs. Pettit's and Butterfield's invitation, assembled in the dining room at the Ottawa Tent Colony, where two hours were most pleasantly spent at the banquet table, at which Dr. J. F. Percy, President of the State Medical Society, presided as toastmaster and Rev. Bailey and Drs. Moyer and Pusey as speakers.

WEDNESDAY, DEC. 5, 1906.

Meeting called to order at 8:10 by the President. The application of Dr. John F. Crowley (287) of La Salle was received and referred to the Board of Censors. The nominating committee reported for officers of the Association

the following: For President, E. P. Cook of Mendota; First Vice-president, E. S. Murphy of Dixon; Second Vice-president, D. W. Jump of Plainfield; Secretary and Treasurer, G. A. Dicus, Streator; Board of Censors, F. A. Turner, Sandwich; J. J. Pearson, Pontiac; Roy Sexton, Streator; J. C. White, Seatonville; S. O. Hendrick, Henry; Committee on Necrology and Biography, F. C. Robinson, Wyanet; J. F. Dicus, Streator; J. M. Kaiser, Somonauk; G. B. Anthony, Sterling; James Tweddah, Washburn. Place of meeting to be selected. It was moved and seconded that the report so far be adopted and that Dr. Marshall of Long Point be instructed to cast the vote of the Association for the officers as reported for the ensuing year.

The nominating committee presented also the following resolution: "The North Central Illinois Medical Association, in convention assembled, desire to express their grateful thanks to the medical profession of the city of Ottawa for their hospitality towards us during our visit here. We especially thank Drs. Pettit and Butterfield for their entertainment at the Tent Colony, and thoroughly appreciate the work they have done to combat "the White Scourge" and wish them all the success they can possibly desire. To the press of Ottawa our thanks are extended for their courtesy towards us."

An amendment to Article 2, Section 2, of the constitution which was laid over from 1905 was then taken up and acted upon, relative to qualifications for membership. After the word qualifications, the following words were inserted: "And must be a member of the County Society in the county in which he lives if one exists."

It was moved and seconded that, in case no other invitations are in before, we adjourn and if the physicians of Sterling find it satisfactory, we meet in Sterling in the year 1907. Moved and carried that the Secretary be instructed to drop the names from the roll of membership of those who are delinquent five years.

Harry S. Lester of Streator read a paper on "Toxic Amblyopias." Dr. S. O. Hendricks of Henry then read a paper on "The Social Features of Phthisis Pulmonalis." Wm. P. Marshall of Long Point read a paper on "Eczema and Its Treatment." Reported ten interesting cases of ileus. Dr. Frank E. Simpson of Chicago read a valuable paper on "The Diagnostic Value of Ulceration in Cutaneous Disease." Dr. H. A. Millard read a paper on "Inflammation of the Gall Ducts and Bladder," which was very interesting.

A motion was made by Dr. Ensign that Frank E. Simpson of Chicago be made an honorary member of the Association. Carried. Moved that Dr. Hecht, who applied for membership, be made an honorary member. Carried. The Secretary having reported Dr. Bonar of Streator seriously ill and not likely to be able to meet with us again, the following resolutions were prepared and unanimously adopted, with instructions to send a copy of the same to Dr. Bonar:

"Resolved, That the members of the North Central Illinois Medical Association, now assembled in annual session at Ottawa, Illinois, do most sincerely extend to their beloved fellow-member, Dr. B. L. Bonar of Streator, now confined by serious illness to his home in that city, their sincere sympathy in his physical affliction and most heartily wish and pray for his early restoration and future ability to again meet with them."

Moved that a committee of three be named whose duty it shall be to see what can be done to secure a larger attendance and greater interest in our meeting. A rising vote of thanks was tendered Dr. Pearson, the retiring President, and the officers for the year 1907. The Society adjourned to meet Dec. 3, 1907.

G. A. DICUS, Secretary.

ECZEMA.*

W. P. MARSHALL, M.D.

LONG POINT, ILL.

Eczema is a terra incognita, an unknown country, the remaining territory of a once much larger region, the landmarks of which have not been set up by accurate

* Read before the North Central Illinois Medical Association, Dec. 5, 1906.

survey. Explorers and investigators have discovered and mapped out on its borderland pemphigus, acne sycosis, and a host of other things capable of definition. The remainder is still eczema. This "changeable, manifold and polymorphous affection," as Professor Shoemaker terms it, has no type, for, once a type is recognized, it can be defined and ceases to be eczema. It is always something else. We say it is non-contagious, for contagion in one way identifies a given malady.

The definition must necessarily be a very elastic affair, and authors have succeeded fairly well in covering the ground. For example, Professor Shoemaker says: "It is a non-contagious inflammatory affection of the skin, acute or chronic character, appearing (mark the accuracy!) in the form of any one of the elementary lesions, such as erythema, papules, vesicles, pustules or a combination of these, causing all of the secondary lesions, accompanied with itching, more or less infiltration and frequently attended with a discharge and the formation of scales, crusts, fissures, abscesses, edema, and hypertrophy." Again: "It may appear as one or all of the results of inflammation, either successively or simultaneously, and be followed by any one of the above-named secondary lesions," and we might add, in the self-same spirit of scientific accuracy, by stenosis, kyphosis, pediculosis, fracture of the femur and a change of the moon! It is surprising to see to what heights of verbosity and depths of obscurity a skin specialist can sometimes go when he arrives at a *pons asinorum* like this. Gentlemen, if any one here should ever be afflicted with this disease or a desire to become a specialist in dermatology, let him retire to a hay mow or some quiet place and try to master two pages of description of it by Shoemaker or some of the other authors. It will not help the disease any, but it may cure the unhappy ambition.

Some authors pad out their books with chapters on eczema of different parts of the body, and eczema seroti, for instance, is a fertile field for verbosity. This location being the more frequent seat of the disease and treated more at length, we might here expect greater results of observation and treatment. Some pronounce in favor of a constitutional cause in every case, and then proceed to remark that, on account of the great vascularity of the derma of this part, that local irritation from seabies, dirt or pediculi may give rise to well-marked cases of eczema—and there you are again! This lack of consistency of the authors helps to make the study for the honest enquirer a peculiar difficulty. A pandemic aerobic microbe, so far as I know, has not been suggested. Let the calcium light of science be turned on again.

MORBID ANATOMY.

Under the heading of morbid anatomy, for example, the alternative conjunctive "or" and adverbs "frequently," "often" and "sometimes" play an important part in the description. Like the Delphic oracles, their assertions read several ways and mean most anything. Condensing the remarks of a high authority, we learn that the "vascular cuticle of this part, when the seat of the papular or vesicular variety, will be inflamed, swollen, red and hot, "sometimes." More frequently than "sometimes" "the erythematous form will be present, with more or less secondary change." (How very accurate.) "The rich supply of blood vessels, lymphatics and nerves will here account for the changes and symptoms which may be induced by various lesions." (!) "Inspection will reveal (?) the increased vascularity, the marked hyperplasia of morbid products in the interstitial tissues of some of the lamella of the integument when they happen to be present." What tissues or lamella is not stated. We are supposed to be able to see clear into, if not through, the difficulty.

SYMPTOMS.

Under the heading of symptoms there is more English and less dictionary, but the puzzle goes on. We learn that "the organ is more or less swollen." Either way will do. "Sometimes rough and scaly and often the seat of most distressing itching," skin red, "often relaxed, hanging down and coming in contact with the legs, causes an extension of the constitutional disease." Professor Shoemaker is very positive about one clinical feature of these cases, and says: "When the relaxation disappears, the thickening increases to a great degree." He carefully

notes this "subsidence of relaxation," as he calls it, but some of us may happen to remember that this beautiful diagnostic symptom may happen to any healthy man or boy when he goes in swimming, if the water is too cold.

At this point I turned to Professor Osler's Practice for more light. We find that, while he gives (pp. 1048-49) very full information about harvest bugs and ticks, with their Latin names, and also full description and treatment for lice bites and a concise résumé of the ravages and cause of smell of the common bed-bug (*Cimex lectularius*) and its treatment, as well as of fleas and sand jiggers, yet he ignores this subject, with no reference to eczema whatever. Brilliant man! He knows an ass' bridge when he comes to it.

DIAGNOSIS.

The diagnosis, for these reasons, is attended with some difficulty, but should always be attempted. There is a long list of ailments, with symptoms identical with those which "may or may not exist" in eczema. The greatest difficulty lies in the fact that a small piece of skin not larger than a half dollar may be the seat of any one of the following ills, to wit: "*Ringworm, acne, syphilis herpes parasitica, erythema multiforme and erythema nodosum, trypanophytosis, lichen rosacea, dermatitis, psoriasis, scabiorrhea sicca and oleosa, pemphigus, favus, lupus, prurigo, dysidrosis, scabies, rupectigo simplex and contagiosa, epithelioma, pythieriasis, pityriasis rubra, pediculosis pubis et corpus*, and various other diseases. Sycosis may be excluded where the beard does not grow. If any of these diseases is present, the eczema may be overlooked. If several or all of them are present at the same time, you see at once the diagnosis becomes a multiplied difficulty. To be exactly sure and certain and avoid empiricism, we must be able to exclude each and all of the above-named maladies by a differential diagnosis, and right here when least expected, our skill may be very sorely tried. For example, even supposing the case has been ciphered down to a differentiation between eczema seroti and pediculosis, with the insects in great numbers present and desecrating, as it were, the phallic shrines of humanity, the diagnosis here might seem mere child's play were it not for the fact that respectable authors, after affirming a belief in a constitutional cause for all cases, yet declare that true eczema may be produced by the pernicious activity of the aforesaid creatures. In sheer despair what can we do but refer the case to the superior wisdom of a professor of dermatology?

TREATMENT.

For a disease beautifully defined as changeable, manifold and polymorphous the treatment in vogue might also be expected to be "changeable and manifold," and so it has been. It would be unprofitable to review it. Fortunately for suffering humanity, the treatment does not present insurmountable difficulties. Rebellious patients need not be informed of our ignorance nor supplied with a long list of skin diseases with Latin names as above, but if duly advised of the dire effects of two or three may be induced to submit to our intelligent medication. Among the multitude of remedies supposed to be "more or less" beneficial, it will be easy to choose a variety for successive trials. The patience and the pocket book of the patient must be considered as well as the danger of acquiring the reputation of "a doctor who can't cure the itch." It is a curable affection. All the adjuvants of cleanliness and hygiene may be used to good effect and many cases will yield to the local use of oxid of zinc or ichthyol combined with lanolin. Often the use of the hypophosphites or other tonics indicated for internal use, with the following for local treatment: R. Chaulmoogra oil, 4 pts.; citrine ointment, 2 pts.; lanolin, 2 pts. Apply locally two or three times a day.

In conclusion, gentlemen, one serious word as to caution in diagnosis. Look out for manifestations of secondary or tertiary syphilis, another "manifold malady" which often masquerades as eczema. A few days ago a medical friend told me of a recent doleful experience of his own which will emphasize this point. The parents, apparently both healthy and virtuous, brought their little girl for

treatment of eczema of the face. Two other good and prominent physicians, "nameless here forevermore," in succession had tried and failed to do any good or get any result. My friend, too, was deceived by the apparent virtue of the parents. He failed also after due time. They went home in disgust, and the father began to give the child his own medicine—a nostrum containing potassium iodid—and the result was soon a satisfaction to all the parties except the doctors. Remember the iodid of potash in all doubtful cases.

TOXIC AMBLYOPIAS.*

H. S. LESTER, M.D.

STREATOR, ILL.

By toxic amblyopias I mean defective vision produced by poisoning. The most common form is that from alcohol and tobacco, but there are other amblyopias produced by narcotics and various drugs, and this being the case, this subject is of vital importance to every general practitioner, as well as to the ophthalmologist. And, as some of these conditions are characterized by an abnormal appearance of fundus oculi, how important it is that every student of medicine should understand and make use of the ophthalmoscope; when, in fact, how few learn the many lessons taught by the simple inspection of the eye. The practitioner who ignores any of these means of diagnosis is as culpable as the ophthalmologist who attempts to practice his specialty without keeping posted in general medicine. As the eye contains examples of almost all the tissues found in the body, and as the optic tracts in winding around the crura cerebri make connections with practically every central neuron, thus it is seen that the morbid histology of the eye and its nerves is not altogether a study apart, but is chiefly an application of the principles proper to general pathology.

Recent writers upon toxic amblyopias, while all agreeing as to the importance of the subject, yet they have been unable to make a relative classification of the subject, either from a chemical or an anatomic pathologic standpoint. A chemical classification is disadvantageous because substances chemically different may produce singularly analogous ocular symptoms. Some of our German men have arranged the drugs in alphabetical order, and some have made a clinical distinction, as may be drawn between retrobulbar neuritis and intoxication amblyopia. But these two forms can not always be separated, and the alphabetical arrangement has nothing to commend it.

Casey Wood's classification of the poisons into those that directly affect the optic nerve, those that produce other forms of optic nerve and retinal disease, and those that give rise to amblyopia symptoms unaccompanied by retinal or optic nerve lesions, is in many respects the most satisfactory one that thus far has been suggested. So, in handling this subject, I have found it impossible to dispense with the individual name of the drug which originates the visual defect.

Recent work with new histologic methods and with the culmination of a series of experiments which are in progress at the present time, indicate that we will soon be able to establish a satisfactory pathologic classification of the toxic amblyopias; and, instead of going into the subject from a histologic and pathologic standpoint, this paper will give in a general way some of the latest researches in poisonous substances or toxins liberated by them, in the system which produce amblyopia by an action on the ganglion cells, nerve fibers, optic nerves or their vascular supply.

A number of writers, Fisher, Nuel, de Schweinitz and others, believe that nicotine amblyopia is not primarily a disease of the macular bundles, but of the ganglion and other retinal cells in the macular region; it destroys their power of conducting impulses; and it is reasonable to suppose that the action of nicotine is not to produce in the first instance a retrobulbar neuritis, but a more peripheral action, constriction of arterioles and eventually changes in the cone fibers, the inner granules, or both.

The center of the visual field is characterized by scotomas, or a blindness for

*Read before the North Central Illinois Medical Association, Dec. 4, 1907.

red and green. For a long time Van Graefe and Leber surmised that central scotoma was a symptom of lesion of the optic nerve. It remained for Samelsohn in 1880 to furnish the anatomic proof. We have a few cases of sudden blindness from acute tobacco poisoning. For example, after applying it to a hollow tooth or following an enema; but from experiments in animals, this form, called intoxication amblyopia, does not present demonstrable lesions in the optic nerves. It is very hard to separate the symptoms of tobacco and alcohol amblyopia, as nearly all that use alcohol use tobacco. Patients usually of middle age will come with both eyes affected, complaining of foggy or misty vision. The disease is painless and presents no external signs. They rarely suspect the true cause of their visual defects. The acuity is lowered to at least two-fifths or two-sevenths of normal vision, and the reading of fine print is difficult or impossible with any glass.

In the tobacco cases, in the early stages the ophthalmoscopic findings are negative, or at most there is slight veiling of the edges of the disc and discoloration of its surface. Later there is a pallor of the temporal half, or pallor of a quadrant-shaped area in the lower and outer part, an area which in aggravated cases assumes the appearances of complete atrophy. In alcoholic cases we have the same scotoma for red and green and sometimes for blue. This can be tested by taking small pieces of red or green yarn between the thumb and finger and holding directly in front of the eye. If held higher or lower, or to either side, the patient will more easily distinguish the color.

In the mixed cases the relation of alcohol to the production of the amblyopia is that it predisposes to tobacco amblyopia, by producing chronic dyspepsia, or by lowering the vital powers which are thus unable to resist toxic influences. According to Sachs and Horner, the true relation of nicotine to the production of amblyopia has not been determined. The great volatility of nicotine and then presence of numerous other poisons in tobacco smoke indicate that nicotine can not be the only active principle at work; and it is probable that the poisonous effects of tobacco, not only upon the optic nerve, but on the system generally, are enforced by volatile alkaloids, formed during its combustion, possibly piridin or collodin, should be regarded as active toxic agents in this respect. It is quite possible that nicotine or one or more of the principles present in tobacco smoke liberate some toxic influence in the system which must be held accountable for the disease, which, in other words, depends upon a species of autointoxication.

Sachs maintains that even in pure tobacco cases certain complex chemical combinations occur in the stomach, and there is a transformation of the normal gastric juices into acids of the fatty type, which combine with nicotine into substances which are more injurious than the simple tobacco bases themselves. This observation is important in connection with certain experimental work under the direction of Dr. Casey Wood, not yet published, which indicates that certain stomachic toxins are capable of causing in animals blindness, probably of the type now under consideration.

In these combined cases the prognosis is favorable; taken in time a perfect recovery generally follows. There must be total and immediate abstinence from tobacco and alcohol; good food, fresh air, sufficient sleep, Turkish baths are indicated; internally iron and strychnia. If this routine treatment be followed for one to three months a cure can confidently be expected.

AMBLYOPIA FROM THE ESSENCE OF JAMAICA GINGER AND THE ESSENCE OF PEPPERMINT.

The last few years a number of such cases have been reported by Thompson, de Schweinitz, Gifford, Casey Wood and others. They especially occur among sailors, who consume large quantities of the essence of ginger, and the Indians of the northwest who consume the essence of peppermint, essence of lemon, etc., in place of whisky. The symptoms are uniform in all cases; for nearly twenty-four hours after the ingestion of the poisonous fluid, vision appears unaffected; suddenly the patient becomes almost or totally blind. If he survives, improvement in sight slowly takes place, but this is likely to stop after the lapse of a few more

days or weeks, and the sight diminishes until he becomes blind. The treatment is that of optic nerve atrophy, following neuritis.

A case of typical toxic amblyopia, produced by a dose of santonin is reported after taking an unknown amount of the drug, the patient awoke next morning to find everything looking yellow. The xanthopsia persisted for three days and left a visual disturbance of the right eye. After six weeks the symptoms disappeared.

Amblyopia from iodoform has been reported by De Vries, Hirschberg, Priestly Smith, Hutchinson and others. The ages of the cases run from nine to forty-eight years. The sexes were about equally divided. Hutchinson's and Smith's cases were treated with iodoform pills for pulmonary complaints, while in others it was used as dressings and injections. The De Vries case was a 9-year-old patient with a vertebra abscess, which was regularly syringed with 10 per cent. of iodoform in glycerin; the smallest injection contained 60 grams of the fluid. The patient was taken by emesis, headache, dilatation of the pupils and increased pulse and temperature. An absolute central scotoma was found in the left eye; relative in the right, the fundi were normal. When last examined a scotoma for red was present in the left eye and vision one-sixth, the right was improved until vision was one-half.

One case of a boy 15 years old who was treated locally after an operation for osteomyelitis of the femur, with the antiseptic preparation known as ioduret, at the end of three weeks there was a central scotoma. Another case was a 16-year-old girl whose surgical lesion was a widespread burn, which was treated with applications of thiuret. A month later she had marked failure of central vision, a large central scotoma and temporal atrophy of the optic nerves. Removal of the drugs and injection of strychnin resulted in improvements in both cases.

Five cases of optic neuritis following the excessive use of thyroidin have come under the observation of Coppez. Four of these were in women and one in a man. The toxic amblyopia was of the retrobulbar type, giving rise to central scotoma. The drug was taken for obesity. Straub reports loss of vision following the taking of forty drops of fluid extract of hydrastis three times daily for three months. Improvement took place upon stopping the drug and treating the retrobulbar neuritis.

Disturbances in vision due to the toxic influence of lead has been known for a great many years. They are usually preceded by other signs of chronic plumbism. There are no ocular symptoms diagnostic of chronic plumbism; may or may not have central scotomas; may be almost any symptom seen in amblyopias.

Well-authenticated cases of arsenical amblyopia are rare. Liebrecht and Derby each report several cases. We have no report of cases among the arsenic eaters of Styria. According to Gowers, amblyopia analogous to that caused by lead, may occur from nitrate of silver. Amblyopia from mercury has been questioned by some of our best men, although it has always been credited with producing defective vision. In acute mercury poisoning, de Schweinitz says that it is probably true that hemorrhages and fatty degeneration of the retina occur. These same conditions would apply to amblyopia from phosphorus. Amblyopia from various coal tar products, such as antifebrin (acetanilid), phenacetin and antipyrin.

According to Hilbert, large doses of acetanilid (45 grains) may cause complete blindness, followed by marked anemia of the optic nerve and retina, with shrinking of the vessels and contraction of the visual field, a similar condition to quinin amaurosis, and would suggest a similar pathogenesis. Other symptoms noted after large doses of this drug have been narrow and immobile pupils and distension of the retinal veins.

Goodman reports cases of temporary amaurosis from antipyrin. I was called one evening to see a young lady, who, several hours had taken an unknown quantity of phenacetin for a headache. She was suddenly stricken with confusion in vision, which amounted to almost total blindness. This condition lasting several hours, and the vision gradually clearing up in a few days, the examination

of the eye was negative. We have irregular and spasmodic contraction of the muscles of accommodation which blurs the vision; also temporary loss of sight, with contracted pupils, attributable to cramp of the retinal vessels; or there may be atrophy of the optic papilla and central scotoma. Intoxication amblyopia is reported from chloral. From the long-continued use of potassium bromid, keratitis (Gifford), phlyctenular conjunctivitis (Kneis), and ptosis and dilated pupils (Rudisch) have been described. Amblyopia attributable to iodid of potassium does not seem to have been reported. A few cases of amblyopia have been reported from large doses of cannabis indica, vanilla and stramonium, and Würdemann reports one case from ergot.

Casey Wood suggests that minor defects of vision manifesting themselves in the form of asthenopia probably not infrequently are caused by drugs and beverages in every-day use. He not only includes what drugs I have mentioned, but includes in his list quinin and the salicylates; also tea, coffee, chocolate, high game and strong cheese, believing that the asthenopic symptoms produced by this latter group is caused by some form of dyspepsia which these substances originates; in fact, a form of ptomain poisoning.

Temporary amblyopia may be produced from any of the salicylates or any of the preparations of the cinchona bark. But quinin, probably more than any other drug mentioned, is prone to produce complete blindness or amaurosis, which may occur in twenty-four hours from a dose of 15 grains to 1 ounce. This is caused by contraction of the retinal vessels, followed by destruction of ganglion cells and ascending degeneration of the optic nerve.

In my own practice I have had two cases of temporary amblyopia produced by the much advertised preparation, laxative bromo quinin. Each patient was a middle-aged lady and each was taken with vomiting and almost complete blindness several hours after taking six or eight of the tablets. The pupils were inclined to be dilated. The amblyopia gradually cleared up in about three days.

PIKE COUNTY.

The Pike County Medical Society met at Pittsfield, Ill., April 25, 1907. The following members were present: Drs. Crane, W. E. Shastid, Duffield, Peacock, Smith, Rainwater, McComas, Lacy, McConnell, Thomas, Miller, Harvey and Main. Dr. J. F. Percy of Galesburg was also present. After the transaction of the regular business of the society, the following officers were elected for the ensuing year: President, F. Marion Crane, Pittsfield; Vice-president, L. S. Lacy, Pittsfield; Secretary-treasurer, R. H. Main, Barry; delegate, J. Estill Miller, Pittsfield; alternate, R. O. Smith, Pittsfield. Dr. J. F. Percy addressed the Society on "The Future of the Illinois State Medical Society." Dr. J. L. Lacy addressed the society on the subject of "Neurasthenia." Dr. S. Smith Thomas read a very entertaining paper on "Biblical Obstetrics." Dr. J. F. Percy read an interesting paper on "The Borderland of Insanity," which, in conjunction with Dr. Lacy's subject, elicited an interesting discussion. By a vote the Society passed resolutions of respect to the memory of the late Dr. Harvey Dunn.

WABASH COUNTY.

The regular meeting of the Wabash County Medical Association was held in Mt. Carmel Tuesday afternoon. The program consisted of a paper by Dr. J. A. Knapp of Evansville, Ind., on "Air Passages and Breathing." It was illustrated by specimens and clinical cases. The Society donated \$2 on the Drs. Hollister and Ensign memorial fund. In the evening the members of the Association and their wives were entertained at the home of Dr. S. W. Schneck, where a pleasing program was rendered. In the afternoon Dr. W. E. Mercer was elected a member of the Association and an alternate delegate to the State Association. Dr. J. B. Maxwell was elected delegate to the State Association at Rockford in May.

WAYNE COUNTY.

The Wayne County Medical Society held its regular quarterly meeting at Dr. Bean's office in Fairfield on Wednesday, April 10, 1907. Those present were: W. M. Johnson, G. A. McDonald, J. E. Dixon, B. E. Garrison, T. J. Hilliard, F. Bean and J. P. Walters. The meeting was called to order by the President, W. M. Johnson, at 2 p. m. The application for membership of Dr. N. J. Hall was considered by the Society and by unanimous vote he was elected to membership.

The following were unanimously elected to fill the respective offices for the ensuing year: President, F. Bean; Vice-president, T. J. Hilliard; Secretary and Treasurer, J. P. Walters. Censors are to be appointed by the President when needed. Dr. G. A. McDonald read an interesting paper on "Puerperal Eclampsia Occurring Before, During and After Labor," which was reviewed by Dr. J. P. Walters, after which there was a general discussion of the subject till 5 o'clock, when the Society adjourned to meet again in the evening.

At 7 o'clock the meeting was called to order by the President. Dr. N. J. Hall reported a case which began like an ordinary case of lobar pneumonia. The patient had an initial chill, followed by fever, pain in side of chest, cough, with expectoration of bloody or rusty sputum and hurried breathing, all of which symptoms subsided inside of forty-eight hours. The doctor propounded this question: Was this a case of pneumonia aborted or a case of pulmonary congestion? A free and spirited discussion followed this query, in which all present participated.

Dr. J. E. Dixon read a paper on "Up-to-date Treatment of Bronchitis in Children." The doctor had evidently studied his subject well. The subject was freely discussed by all present, continuing till a late hour, when the Society voted adjournment to meet at Jeffersonville at a time to be determined by the President and the Secretary.

NEWS OF THE STATE.

Dr. D. R. Brower has returned from Egypt.

Dr. Emanuel J. Senn, of Chicago, returned from Europe May 5.

Dr. Leigh E. Schwartz, Highland Park, sailed for Europe May 2.

Dr. L. Blake Baldwin has been appointed city physician for Chicago.

Dr. Albert I. Bouffler has returned after a few months in California.

Dr. and Mrs. Robert A. Noble, Bloomington, have returned from abroad.

Dr. John W. Houston has been made president of the Virginia Board of Health.

Johns Hopkins University has opened its doors to women on equal terms with men.

It is estimated that there are 25,000 women in America who possess medical diplomas.

A case of smallpox has occurred in Rushville, said to have been imported from Beardstown.

Dr. August H. Arp has been made health commissioner of Moline, vice Dr. Robert C. J. Meyer.

Dr. Frederick W. Werner, Joliet, who has been ill with sciatica, is reported to be improving.

Dr. T. J. Fenton, Philo, is reported to be critically ill at the Burnham Hospital, Champaign.

The city of Munich has voted a grant of \$25,000 to be applied toward the diminution of infant mortality.

Owing to the many protests from physicians throughout the state, Governor Deneen has vetoed the Optometry Bill.

By the will of James Henry Smith, \$100,000 is bequeathed to St. Luke's Hospital of Chicago, of which he was a trustee.

Dr. V. D. Lespinasse has removed his office to Suite 1001, Chicago Savings Bank Building, 72 East Madison Street, Chicago.

On account of the prevalence of smallpox at Tremont, the commencement exercises at the high school have been postponed.

McGill University of Montreal has again suffered a destructive fire and the loss of over \$350,000 in medical buildings and museum.

Dr. Walter Wilhelmj, East St. Louis, has been appointed assistant physician of St. Clair County, vice Dr. William C. Spannagil, resigned.

Dr. C. Burr Caldwell, Bethany, has received an appointment as resident physician of the Illinois Southern Hospital for the Insane, Anna.

The annual banquet of the Douglas Park Branch of the Chicago Medical Society was held at the Sherman House, Chicago, Monday, May 27, at 7:30 p. m.

Dr. William H. Knapp of Chicago is reported to have been seriously injured in the accident on the Mexican Central Railway, at Bermejillo, Mexico, May 11.

Dr. C. A. Stone, of Mason City, has purchased a practice and will locate at Riverside, Cook County. He has sold his property to Dr. H. O. Rogier, of St. Louis, Mo.

The county board of Cook County has added six members to the staff of the Cook County Hospital and one member to the staff of the Contagious Disease Hospital.

The Elizabeth William Memorial Hospital, the maternity department of the Evanston Hospital, just completed at a cost of \$25,000, was formally dedicated May 9.

Professor Killian of Freiburg, Germany, gave a clinic at Rush Medical College on diseases of the nose and throat, May 15, at 2 p. m., to which the profession of the city were invited.

The Society of Ex-Internes of St. Luke's Hospital, Chicago, held its annual meeting and banquet April 27. Dr. Samuel J. Walker was elected president and Dr. George Edwin Baxter, secretary.

A banquet was given May 2 by the Menard County Medical Society at Petersburg in honor of Dr. Joseph W. Newcomer, "in recognition of his loyal and faithful services to the profession in Menard County."

Dr. J. M. G. Carter, of Waukegan, has removed to 911 First National Bank Building, Chicago, where he will devote his time to office practice and service as medical director of the Commercial Insurance Company.

Dr. C. B. Caldwell, of Bethany, has been appointed to a position in the Southern Illinois Hospital for the Insane at Anna. Dr. Caldwell secured this under the provision of the civil service law at an examination held recently in Springfield.

The following promotions were made in the University of Chicago: Dr. Robert R. Bensley has been made professor of anatomy; Edwin O. Jordon, professor of pathology and bacteriology, and Drs. Howard T. Ricketts and Norman M. Harris, assistant professors in pathology and bacteriology.

The Elgin Physicians' Club, May 6, elected the following officers: Dr. Jane C. Truill, secretary; Dr. Lewis W. Dudley, treasurer, and Drs. Edward H. Abbott, Leonard S. Taylor and James Campbell members of the executive committee. Dr. Dwight E. Burlingame was chosen as chairman for the evening.

At the thirty-third annual meeting of the Central Illinois District Medical Society, held in Pana, April 20, the following officers were elected: President, Dr. Frank P. Auld, Shelbyville; vice-presidents, Drs. Ben B. Griffith, Springfield, and Don W. Deal, Springfield; treasurer, Dr. John N. Nelms, Taylorville, and secretary, Dr. Roscoe C. Danford, Pana.

The State Civil Service Commission announces that it will call an examination for assistant physicians in the hospitals for the insane, internes, and possibly a psycho-pathologist, in June. These positions pay from \$75 to \$125 per month and board, in the majority of cases. The position of psycho-pathologist will, it is believed, pay not less than \$3,000 a year.

The banquet for the medical staff of the Oak Park Hospital, which was postponed from March 3 on account of the illness of Dr. John W. Tope, chief of staff, was held May 4. Bishop E. J. Dunne, Dallas, Texas, gave the opening address. Dr. William A. Evans, health commissioner

of Chicago, was toastmaster. Addresses were made by several physicians of Chicago.

The Stock Yards Branch of the Chicago Medical Society held their fifth annual banquet at DeJonghes, Tuesday, May 28, 1907. A large number attended. An orchestra and quartet furnished music, and many other features were on the program. George W. Webster, president of the Chicago Medical Society, and W. A. Evans, Health Commissioner, were among the speakers.

The College of Physicians and Surgeons of New York is just passing its one-hundredth anniversary. The charter bears the date of March 12, 1807. The first class graduated in 1811, that year also being notable for the induction into office as president of Dr. Samuel Bard, who had been the physician of George Washington and a former dean of the medical faculty of Columbia College.

W. C. Fuchs, one of the pioneers in the use of the *x*-ray in Chicago and for a long time the head of the laboratory that did the greater part of the skiagraphic work for the physicians of the city, recently died as the result of numerous *x*-ray burns. For two years he had been suffering and repeated amputations failed to save his life. He was the fifth in this country to perish from the same cause.

Under the omnibus appropriation bill, the State Board of Health will be allowed \$15,000 yearly for free distribution of antidiphtheritic serum outside of Chicago. The appropriations of the State Board of Health have been materially increased also by this bill, the sum of \$119,200 having been appropriated for the work of the board, against the sum of \$83,320 granted by the General Assembly of 1905.

Lord Lister celebrated his eightieth birthday at his residence, 12 Park Crescent, Portland Place, London, April 13, 1907. Many telegrams from all parts of London, the country and abroad reached him. His apartments were decorated with floral offerings from professional and private friends and admirers. To each bouquet was attached a card bearing a congratulatory message. He received several deputations, who presented addresses expressing high appreciation of his work.

The following is reported as abstracted from the records of the National City Health Office, California: Population, 2,000. From Jan. 19, 1900, to the present date, a period of five years, there have been in our city only ten deaths from acute diseases. In these five years there has not been a death from measles, scarlet fever, diphtheria, typhoid or malarial fever, cholera infantum or any other form of bowel trouble, and only two from pneumonia.

A bill introduced at the instance of the State Board of Health will confer specific authority on the State Board of Health to establish standards of preliminary education and to determine the standing of literary, scientific and medical schools, will provide for reciprocal registration of licenses; will allow the members of the board compensation for their services, and will remedy a defect in the act of 1899 by giving the State Board of Health jurisdiction over all licenses issued since July 1, 1877.

The fifth annual conference of state and territorial boards of health with the Public Health and Marine-Hospital Service was held in Washington, D. C., May 31, 1907. These conferences are convened in accordance with the Act of Congress approved July 1, 1902, "increasing the efficiency of the Marine-Hospital Service." The subject to come before this conference for discussion will be: "Sanitary Supervision of Milk Supplies," "Malaria, its Geographical Distribution," and "Bacillus Carriers."

The following changes have been made in the National Guard: Major Charles Adams has resigned as surgeon of the First Infantry and has been made secretary to the surgeon general. Capt. Samuel C. Stanton has passed his promotional examination and Dr. Daniel W. Rogers his examination for the medical department, and they will be assigned as major and surgeon and first lieutenant and assistant surgeon, respectively, to the First Infantry. Dr. Harry D. Orr has passed his examination and will be commissioned first lieutenant and assistant surgeon, and assigned to the First Cavalry.

Governor Deneen has allowed the bill giving the State Board of Health supreme authority in all matters of quarantine to become a law without his signature. The constitutionality of the sections authorizing the board to make and enforce rules and regulations, which shall have the force and effect of the statutes, was questioned, and this led the chief executive to withhold his signature. The bill makes the secretary the executive officer of the board, and empowers him to enforce such measures as he may deem necessary to protect the public health, when the board is not in session.

A bill conferring additional powers on the State Board of Health passed both houses. It gives the board supreme authority in all matters of quarantine and makes it the duty of all local boards of health to enforce the rules and regulations adopted by the State Board. A severe penalty is provided for violation of the regulations of the State Board of Health, which is empowered to enforce health measures in cities and villages when the municipal authorities neglect or refuse to act with sufficient promptness or efficiency, and to collect from the city or village all necessary expenses incurred.

Health Commissioner Evans of Chicago addressed his co-workers as follows: If we succeed it will be due to three factors: 1. The efforts of Drs. Whalen, Reynolds and their predecessors, who have increased the efficiency of the department year by year until it has reached its present position. I wish sincerely to acknowledge our debt to them. 2. The support of the men of the department. I must have their help, not only in matters of routine, but in planning and managing and in solving great community problems. It must be our department. 3. We must have the support of the people and the press.

The regular meeting of the Physicians' Club of Chicago was held at the Great Northern Hotel, Tuesday evening, May 28, 1907, at 6:30 p. m. The occasion was the annual meeting. Dr. Daniel R. Brower presided as chairman for the evening. A family dinner was provided for the members from the funds in the treasury. Entertainment was furnished after

the dinner by various comedians. The following officers were elected for the ensuing year: Dr. D. R. Brower, chairman of board of directors; directors, William Belfield, Chas. L. Mix, Charles Paddock, A. C. Cotton, D. A. K. Steele; secretary, Edwin Tuteur.

At the opening of the House of Delegates of the Illinois State Medical Society, a committee consisting of F. R. Green, H. C. Mithel and T. A. Aderhold, was appointed to draft resolutions regarding the Optometry Bill and send the same to Governor Deneen. The committee reported that the following telegram had been sent to Governor Deneen:

"The House of Delegates of the Illinois State Medical Society, assembled at Rockford, has unanimously adopted a resolution requesting you, in behalf of the 4,500 physicians whom it represents, to veto Senate Bill No. 845, establishing a State Board of Optometry.

E. W. WEIS, *Secretary*.

J. F. PERCY, *President*.

At the regular monthly meeting of the Champaign County Medical Society, April 11, the following resolutions were unanimously adopted:

WHEREAS, In certain parts of the county, fees are allowed for treatment of pauper cases, while in other parts of the county the payment is refused; be it

Resolved, That it is the sense of this society that operation fees and full fees for attendance be charged for treating pauper cases on orders from supervisors; be it further

Resolved, That this resolution be binding on the members of this society immediately on its adoption; be it further

Resolved, That a committee of three be appointed to confer with the board of supervisors at their next meeting.

A board of officers will be convened to meet at the Bureau of Public Health and Marine-Hospital Service, 3 B street S. E., Washington, D. C., Monday, July 15, 1907, at 10 o'clock a. m., for the purpose of examining candidates for admission to the grade of assistant surgeon in the Public Health and Marine-Hospital Service.

Candidates must be between 22 and 30 years of age, graduates of a reputable medical college, and must furnish testimonials from responsible persons as to their professional and moral character.

The following is the usual order of the examinations: 1, physical; 2, oral; 3, written; 4, clinical.

In addition to the physical examination, candidates are required to certify that they believe themselves free from any ailment which would disqualify them for service in any climate.

The examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise consists in examination of the various branches of medicine, surgery, and hygiene.

The oral examination includes subjects of preliminary education, history, literature, and natural sciences.

The clinical examination is conducted at a hospital, and, when practicable, candidates are required to perform surgical operations on a cadaver.

Successful candidates will be numbered according to their attainments

on examination, and will be commissioned in the same order as vacancies occur.

Upon appointment the young officers are, as a rule, first assigned to duty at one of the large hospitals, as at Boston, New York, New Orleans, Chicago, or San Francisco.

After five years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon.

Promotion to the grade of surgeon is made according to seniority, and after due examination as vacancies occur in that grade.

Assistant surgeons receive \$1,600, passed assistant surgeons \$2,000, and surgeons \$2,500 a year. When quarters are not provided, commutation at the rate of \$30, \$40, and \$50 a month, according to grade, is allowed.

All grades above that of assistant surgeon receive longevity pay, 10 per cent. in addition to the regular salary for every five years' service up to 40 per cent. after twenty years' service.

The tenure of office is permanent. Officers traveling under orders are allowed actual expenses.

For further information, or for invitation to appear before the board of examiners, address "Surgeon-General, Public Health and Marine-Hospital Service, Washington, D. C."

ANNUAL MEETING AT ROCKFORD.

The fifty-seventh annual session of the Illinois State Society was held in Rockford, May 21 to 23, 1907. Over 600 physicians from the state were registered, and a number of visiting physicians from the adjoining states of Iowa and Wisconsin were also present. The program as outlined in the May issue of THE JOURNAL was carried out most successfully. The chairmen of the sections are to be commended for the rapidity with which they dispatched their work. The committee of arrangements from the Winnebago County Society deserve great credit for the manner in which they entertained the members of the State Medical Society and their guests. The regular meetings were held in the Christian Union Church. The program of section one was given on the first day in general assembly. The program of section two was given on the second day, also the program of the medicolegal committee. The so-called "borderline cases" occupied the morning of the third day. The house of delegates was called to order at 8:30 Tuesday morning by the president, J. F. Percy, Galesburg. The business of the house of delegates necessitated several sessions. On the morning of the second day the house convened to hear the president's report and the reports of other officers and committees. On the third day occurred in the meeting in the house of delegates the annual elections, final reports of committees, and such other business as should come before the assembly. The following officers were elected for the coming year: President, Dr. William L. Baum, now treasurer of the Chicago Medical Society; first vice-president, Dr. C. W. Lille, East St. Louis; second vice-president, Dr. T. H. Culhane, Rockford; treas-

urer, Dr. E. J. Brown, Decatur; secretary, Dr. Edmund W. Weis, Ottawa. Peoria was selected as the next meeting place for the annual session in 1908.

On Tuesday evening occurred the regular general assembly meeting in the main room of the Christian Union Church. Vice-President L. H. A. Nickerson, Quincy, presided. Invocation, Rev. Father Flarety. Address of welcome by Hon. Mark Jardine, Mayor of Rockford. Response on behalf of the Society, by the President, President's Annual Address, J. F. Percy, Galesburg. Address, Section One, Robert B. Preble, Chicago.

On Wednesday night occurred the banquet at the Nelson House. This banquet was a testimonial to Dr. John H. Hollister of Chicago, and William O. Ensign of Rutland. Nearly 300 guests assembled at the banquet table. The occasion was that of the celebration of Dr. Hollister's fifty years' valued membership in the Illinois State Society, and of Dr. Ensign's long-continued and valued services as a member. The following program had been arranged as fitting for the occasion:

TOASTS.

"In seventy or eighty years a man may have a deep gust of the world, knows what it is, what it can afford, and what 'tis to have been a man." The President, DR. J. F. PERCY.

"A slave unto mammon makes no servant unto God." The Toastmaster, DR. G. W. WEBSTER.

"Bright thoughts, clear deeds, constancy, fidelity, bounty and generous honesty are the gems of noble minds." DR. WILLIAM E. QUINE.

MUSIC.

EULOGIUM.

"Praise is a debt we owe unto the virtues of others and due unto our own from all whom God hath not made mutes or envy struck dumb." DR. G. W. WEBSTER.

MUSIC.

"Let me not injure the felicity of others, if I say I am as happy as any." REV. N. B. CLINCH.

SONG.

(The toasts were selected from *Religio Medici*, by Thomas Browne, M.D., knight of the first third of the Seventeenth Century.)

Dr. Newcomb of Champaign presented a beautiful book to Dr. Ensign and Dr. Webster presented a similar book to Dr. Hollister. Each book contained a short biography of the gentlemen to whom it was given, and contained the autograph of all the members of the State Society present at the Rockford meeting. In his presentation to Dr. Hollister, Dr. Webster said in part:

Mr. President and Members of the Society:

By the gracious courtesy of the Entertainment Committee, upon me has been conferred the great honor and pleasure of acting as toastmaster upon this commemorative anniversary.

At the annual meeting at Springfield last year, we were reminded that this year would be the fiftieth anniversary of Dr. John H. Hollister's membership in the State Society, and the suggestion was made that it be celebrated in some fitting manner. Accordingly, it was voted by the House of Delegates that a committee be chosen to prepare some suitable token of our love and respect, to be presented at the annual banquet. After the meeting, Dr. Newcomb suggested that, because Dr. Ensign was the oldest living ex-president, and because of his long and faithful service in the work of the State Society, that a similar memorial be presented to him. This was ordered by the Council, and the names of Dr. Newcomb and Dr. Liehty were added, we three constituting the committee. After one or two conferences, the committee decided upon these books as the most appropriate and suitable form of testimonial. In order that all members of the State Society might have an opportunity to contribute, for we wanted small contributions from the many rather than large ones from the few, in order that the testimonials might be representative of the whole profession of the entire state, asking for contributions, a letter was sent to the secretary of every county in the state. In this manner the necessary funds have been raised, showing the degree of respect, love and esteem in which Drs. Hollister and Ensign are held by the physicians of the state. . . .

Dr. Hollister:

On this the fiftieth anniversary of your membership in the Illinois State Medical Society, and in behalf of all its members, upon me devolves the very pleasant duty and great privilege of presenting to you this beautiful book as a tribute of our appreciation, a slight token of our love and esteem. In it, besides the names of several hundred of our members, I find written the following:

We give it to you because we believe in strewing flowers in the pathway of the living rather than in gathering garlands for the graves of the dead.

We give it to you because we love you and we love you because you first loved us.

We give it to you with the earnest wish that you may live long to enjoy the friendship and honor, the esteem and love of which it is a token.

This is a book for this medical birthday, not a bargain book, but a beautiful book, a book to caress, peculiar, individual, a book written by a friend with a tender whim, right out of his heart. Read it in the gloaming, and when the gathering dusk doth blur the page, when the evening of life shall come, when the shadows have lengthened along the land, when the embers of red have turned to ashes of gray, "ere yet the silver cord be loosed and the golden bowl broken," bequeath it as a precious legacy to your children's children.

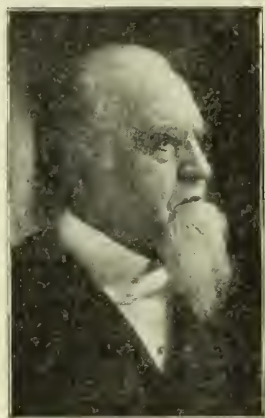
Drs. Ensign and Hollister responded to the presentation in most interesting reminiscences and good wishes for the future growth and prosperity of the society. The appended biographies were printed in the books given to Drs. Hollister and Ensign.

A very important meeting occurred at the Rockford session, which

will undoubtedly be productive of large results in organization, namely, the formation of an organization of the secretaries of the component societies. All reports of officers and committees told of a distinct growth and advance in the various activities of the society, and outlined a distinct program of constructive work for the future. The official proceedings will be published in a subsequent issue.

DR. JOHN H. HOLLISTER.

On June 3, 1856, on motion of Dr. J. W. Freer, the youth whose likeness on this page you may recognize, was elected to membership in the Illinois State Medical Society. Since then he has filled almost every office in its gift—president, treasurer for twenty years, delegate to the American Medical Association almost consecutively since 1858, etc., and has filled all and each of these positions with such integrity and ability that the Illinois State Medical Society desires to express in this memorial its gratitude for his length of days, efficiency of service and consistent devotion to the highest ideals.



Dr. John H. Hollister.

In the list of 139 physicians in the Chicago directory for 1856 may be found the name of J. H. Hollister, 22 Clark Street, residence 194 West Washington Street, recently attracted to the growing city, then numbering some 80,000 inhabitants. He was the son of a Godly mother. His earlier years had been spent in a Christian household. The generosity of a wealthy uncle had given him an academic education and graduation from the Rochester College Institute. His subsequent medical course was in one of the best medical colleges of its day, the Berkshire at Pittsfield, Mass., from which he graduated in 1847.

He had first won his medical spurs in Otesco, and larger success later at Grand Rapids, Mich. Best of all, he had married a good and rightly ambitious wife during his residence in Michigan. Small wonder, then, that success came rapidly to the newcomer in Chicago. The Chicago of 1855 was scarcely larger than two wards of our present city, and it is a debatable question whether it ever had an abler and more efficient body

medical. For the first and only time in its history Chicago had a physician, Dr. Levi D. Boon, for its mayor. There were then in active practice the indefatigable Nathan Smith Davis, the resourceful Edmund Andrews, the polished William B. Herrick, the courtly De Laskie Miller, the daring Daniel Brainard, the learned J. V. Z. Blaney, the successful John Evans, the gifted J. W. Freer, the eloquent Hosmer A. Johnson, the metaphysical Thomas Bevan, and the gruff and kindly hearted Charles Gilman Smith. These were the men who welcomed you to Chicago and straightway became your friends, for they soon found you worthy of every responsibility entrusted to your care.

So it came to pass that within a year after your arrival you were elected secretary of the Cook County Medical Society, later its president, and over and over again its delegate to the American Medical Association. Membership in the State Medical Society followed in June, and in October of that year (1856) your name appears in the announcement of Rush Medical College as demonstrator of anatomy, vice Edmund Andrews, resigned. This was the beginning of nearly forty years of efficient and valued teaching, first at Rush and later in the medical department of Lind University, subsequently the Chicago Medical College, which still later was merged in the medical department of the Northwestern University, with which you still hold an emeritus connection.

During all these years you have not only delivered didactic lectures, but have added no less valuable clinical work in Mercy and Cook County hospitals. As a teacher your work has ranked high, exceedingly so in clearness and accuracy, and hundreds of your former students still recall with gratitude your practical and helpful work, both at the bedside and in the amphitheater. As a writer as well as a teacher, you have acquired an enviable reputation. Your presidential address delivered before the State Medical Society at its meeting at Jacksonville in May, 1875, is a model of its kind and your literary work with good reason is eagerly sought after by enterprising Chicago publishers.

The most valuable asset to-day of the American Medical Association is its journal, which owes much of its value to the policy and methods adopted during your eight years of service as editor and a member of its Board of Trustees. Whatever you have written possesses clearness, force and elegance, and your pen has served every good cause that had just demand upon it.

Church and Sunday school have also made large demands upon your time and unstintedly given. It is doubtful if there is any one living in the city of Chicago who has given as many consecutive years unselfishly to Sunday school work as yourself. The Union Park, the Tabernacle, Plymouth and Armour Mission should hold you in grateful remembrance, especially the latter, which grew out of a Mission Sunday School organized by yourself many years ago; and not only denominational, but all altruistic work have had your sympathy and assistance for the past half century. Hence, we find that the Chicago Bible Society, the American Sunday School Union, the Guardians of the Reform School, the Home Missionary Society, the New West Educational Society, the Chicago

Y. M. C. A., and the Congregational Club have all honored you with office worthily bestowed and honorably filled. But many and varied as have been your honors, the one which you should most highly prize is that of "Dear Old Doctor," affectionately conferred on you by friends and patients, some of whom are grandchildren of your earlier patrons. The kindly Providence which has left you sole survivor of the Vandalia meeting in 1856, has also given you richer gifts in the respect, love and confidence of all who have known you during all the years of your residence in the State of Illinois, for you have led not only an efficient, busy, useful life, but one in which you have found time for sympathy, counsel and prayer, as well as medical skill for your patients.

Wherever you have gone you have made the title of Doctor not only honored but beloved, for your unceasing, unselfish service, not alone to the rich and well-to-do, but also to the tempted and suffering, whether they deserved it or not. This you have done because of your abiding faith in the realities of the religion of Christ, to omit mention of which would be to ignore the guiding motive of your life. You have been a living epistle, "known and read of all men," overflowing with genuine pity; not the pity of the impracticable, medieval saint, but that needed by a clear-headed, active, consistent Chicago physician of the present day.

It must have been no small privilege to have been an integral part of the intense vitality of Chicago for more than half a century. It is a gift that has come to but few of the inhabitants of this great city, but it is a far greater honor to have lived there for fifty years unshaken in your devotion to what is right, true and of good report. A life such as yours is a public benefaction to the state and city in which it has been passed.

Absolute fidelity to duty is so rarely met with in these mad days of strife for honors and for wealth, that we sometimes question whether it longer exists. Your life has been proof to the contrary to all who have known you and most potently so to those who have known you longest and best.

"A great soul gives, a sordid one demands." You have been giving your life to humanity; your time, your service, your talents for the sake of Him whom you love to call Master. In the midst of the turmoils of the worshipers of Dungava the red-toothed God of Success, you have learned with Ruskin that "a man's wealth is measured by the number he loves and is loved by."

When the summons comes which shall call you up higher, the Illinois State Medical Society will have lost its wealthiest, because its best beloved member.

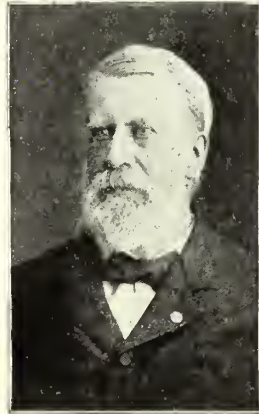
DR. WILLIAM O. ENSIGN.

When, on the 17th of May last year, Dr. William O. Ensign resigned his position as chairman and member of the Council of the Illinois State Medical Society, it marked an epoch in the work of one of the stalwarts of the society, and calls for some fitting recognition of the labor and influence of this pioneer worker. This memorial of his services to the

profession is prompted by a desire thus to honor him and express the esteem of his co-workers.

Dr. Ensign comes of Puritan lineage, being related on both sides to persons whose names are famous in the early history of Massachusetts and Connecticut. He was born in 1841 in Madison, Lake County, Ohio, where he passed his childhood and school days. He was raised in an atmosphere of medicine, his father, Dr. Caleb W. Ensign, being an early practitioner of western Massachusetts and one of the pioneer physicians of Ohio. As evidence of his patriotism, he enlisted early in 1861 in the artillery service, and supported his country through the Civil War. He was graduated from what is now known as the College of Physicians and Surgeons of Cleveland, Ohio, in 1869. He has been honored by *Ad Eundem* degrees from the medical departments of Western Reserve and Wooster universities.

Dr. Ensign's work in organization and in medical societies, in which his services have been particularly valuable, began almost immediately on



Dr. William O. Ensign.

entering the professional ranks. He united with the Woodford County Medical Society in 1873, and was one of the founders of the North Central Illinois Medical Association in 1874. He served as its secretary for fourteen years. He has been an active, valuable worker in the Illinois State Medical Society for thirty-four years. It is safe to say no member of that organization has labored more persistently and self-sacrificingly for its advancement, or done more to raise it to its present high state of effective usefulness than Dr. William O. Ensign. His efforts have been duly recognized by these societies, and he has served in various official capacities, as president, vice-president, chairman of sections, counselor and chairman of the council. In the last-named office he served for nearly four years previous to his voluntary retirement. Other medical organizations with which Dr. Ensign is affiliated are the American Medical Association for the past thirty years, also the American Association of Railway Surgeons and the Old Army and Navy Medical Association.

The whole professional life of this active and energetic man has been spent in the direction of medical organization and its support.

While a volume might be written detailing the events of a long and arduous professional career, the bounds of this memorial are limited to the relation of a few plain, unvarnished facts. No figures of speech are needed to tell the story of this, the best of his class. Perhaps no member of the State Society is better known or more highly esteemed for his many noble qualities of head and heart than Dr. Ensign. An old acquaintance and close associate said to me: "You can not use terms too strong in describing this grand old man." His life and example will be an inspiration for all who love medicine and seek medical progress, and now, with the sun of life past the zenith, he can watch the afternoon shadows lengthen to evening with the happy reflections of a useful and honorable career, and the unbounded esteem of his professional associates.

W. K. NEWCOMB.

MARRIAGES.

GEORGE STEURNAGEL, M.D., to Mrs. Jean L. Haskell, both of Chicago, April 27.

EDWARD W. BANKER, M.D., to Miss Lucile A. Donaldson, both of Aurora, Ill., April 24.

CLIFFORD GROSELLE GRULLE, M.D., Chicago, to Miss Margaret Freer of Hinsdale, Ill., April 24.

CHARLES EDWARD KLONTZ, M.D., to Miss Elizabeth Case, both of Cherry Valley, Ill., May 2.

LOUIS FERDINAND ALRUTZ, M.D., of Chicago, to Miss Helen Althea Truax of Kenosha, Wis., May 8.

WILLIAM SAMUEL BELLows, M.D., Waukegan, Ill., to Miss Isabelle Elizabeth Suess, Chicago, April 23.

FRED COLMAN NICHOLS, M.D., of El Paso, Ill., to Lois Fidelia Dorward of Enid, Okla., April 24, 1907.

CHARLES FOREST HENDERSON, M.D., South McAlester, I. T., to Miss May West, Bloomington, Ill., March 19.

DEATHS.

WILLIAM P. SUTHERLAND, M.D., died at his home in Stilwell, Ill., April 15, aged 74.

JOHN FLETCHER TIDWELL, M.D., a veteran of the Civil War, died at his home in Marion, Ill., from appendicitis, April 15, aged 66.

ADAM A. SIMMONS, M.D., Eclectic Medical Institute, Cincinnati, 1865: died at his home in Girard, Ill., April 22, aged about 80.

GEORGE LEIBROCK, M.D., Homeopathic Medical College of Missouri, St. Louis, 1879; died at his home in Mascoutah, Ill., January 24, aged 78.

AUGUST H. WARREN, M.D., New York University, New York City, 1886; formerly of LaGrange, Ill., was found dead in Quincy, Ill., April 16, aged 70.

GEORGE IRVIN, M.D., Jefferson Medical College, Philadelphia, 1855; died at his home in Aledo, Ill., April 22, from angina pectoris, after a short illness, aged 81.

ANABEL HOLMES, M.D., Woman's Medical College of Pennsylvania, Philadelphia, 1892; formerly of Chicago, died April 22, at her home in Portland, Ore., aged 43.

FREDERICK VOLZ, M.D., Jefferson Medical College, Philadelphia, 1892; died suddenly at his home in Bloomington, Ill., March 27, from pulmonary hemorrhage, aged 42.

HENRY SAWYER HAHN, M.D., Indiana Medical College, La Porte, 1848; city physician of Chicago in 1870, died at the residence of his daughter in that city, April 17, aged 81.

J. B. TENNEY, M.D., formerly of Atlanta, Ill., died April 25 at Clear Water, Fla., as a result of burns received in the destruction of his residence by fire. The remains were brought to Atlanta for interment.

LOIS J. SCHIFFERSTEIN, M.D., St. Louis Medical College, 1873; a member of the Illinois State and Effingham County medical societies; a practitioner of Effingham for twenty-five years, died at his home in that city, April 26, aged 57.

EZRA WEIS, M.D., University of Maryland School of Medicine, Baltimore, 1851; surgeon of Ashland, Ky., General Hospital during the Civil War; a practitioner of Peoria, Ill., for twenty years, died at his home in that city, April 12, aged 87.

NOAH SHEPARDSON, M.D., Bennett College of Eclectic Medicine and Surgery, Chicago, 1870; for many years a practitioner of Fremont, Ohio, and Rockford, Ill., a veteran of the Civil War, died at the home of his son, near Fremont, Ohio, May 8, from paresis, aged 71.

EDWIN GAYLORD, M.D., Rush Medical College, Chicago, 1856; Medical Department University of Nashville, Tenn., 1859; a veteran of the Civil War, and for many years a practitioner of Magnolia, Ill., died at his home in Pontiac, Ill., April 16, 1907, from pneumonia, aged 73.

DAVID WALLACE EDMISTON, M.D., Rush Medical College, Chicago, 1873; a member of the Illinois State and DeWitt County medical societies; a veteran of the Civil War and an esteemed practitioner of Clinton, Ill., died at his home in that city, May 10, after an illness of two weeks, from pneumonia, aged 69.

WALTER AUGUSTUS STEVENS, M.D., Rush Medical College, Chicago, 1887 (honorary degree); said to have been the oldest practicing dentist in Chicago; treasurer of the Illinois State Dental Society from 1890 to 1895, and president of the society in 1895; died at his home in Chicago, April 15, from the effects of a fracture of the hip, after an illness of almost a year, aged 76.

REPORT OF THE COUNCIL ON PHARMACY AND CHEMISTRY.*

ANTITHYROID PREPARATIONS.

Preparations obtained from the blood or milk of animals, after the removal of the thyroid glands. The use of these preparations is based on the theory that the thyroid gland secretes products which are toxic, but which neutralize, and are neutralized by, other toxic substances produced elsewhere in the body. Removal of the thyroid glands, therefore, leads to the accumulation of these second toxic substances as evidenced by the phenomena of cachexia strumipriva and myxedema. On the other hand, the blood or milk of such animals is capable of preventing the effects of a hypersecretion of thyroid substance, such as is supposed to occur in Basedow's disease (exophthalmic goiter). These views are still largely hypothetical; but the majority of clinical observers report markedly beneficial results in the milder forms of the disease and in obscure nervous disorders which are supposedly connected with thyroid hypersecretion. The effects are less pronounced in the more severe forms. The action is merely palliative and other measures of treatment should not be neglected. Improvement occurs in two or three weeks and is indicated by an amelioration of the nervous symptoms, tremors, palpitation, insomnia and excitability. The administration must be long continued. Oral and hypodermic administration are equally effective, but the former is usually preferred. These preparations are not toxic, even when very large doses are used.

ANTITHYROIDIN, MEBIUS.

The blood-serum of sheep from which the thyroid gland has been removed at least six weeks before the blood is drawn, preserved by the addition of 0.5 per cent. of phenol.

Actions and Uses.—For actions and uses see Antithyroid Preparations. **Dosage.**—It is administered by the mouth in doses beginning with 0.5 to 1 Ce. (8 to 15 min.) three times a day, gradually increasing the dose as necessary. Manufactured by E. Merck, Darmstadt. (Merck & Co., New York).

ARGENTAMIN.

An aqueous solution of silver nitrate and ethylenediamine, corresponding to 10 per cent. of silver nitrate.

Actions and Uses.—It is antiseptic and astringent like other silver salts, with the asserted advantage of being non-irritant and more penetrating than silver nitrate. It is said to be useful in all cases where the non-caustic action of silver nitrate is indicated. **Dosage.**—It may be used in the anterior urethra in 0.25 to 1 per cent. solution; in the posterior urethra in from 1 to 4 per cent. solution; in ophthalmology in 5 per cent. solution. Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin. (Schering & Glatz, New York).

ARGONIN.

A soluble casein compound containing 4.28 per cent. of silver.

Actions and Uses.—Its action and uses are similar to those of silver nitrate, but it is claimed to have greater power of permeating living colloid membranes than other silver albumoses. It is applied as an injection in 0.1 to 0.2 per cent. solution; in ophthalmic practice a 10 to 20 per cent. solution in glycerin may be used. **Dosage.**—It is generally used in 0.5 per cent. solution, but even 20 per cent. solutions have been injected without producing irritant symptoms. Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M. (Victor Koechl & Co., New York).

ARGYROL.

A compound of a derived proteid and silver oxide, containing from 20 to 25 per cent. of silver.

Actions and Uses.—Solutions of argyrol (20 to 50 per cent.) are said to be non-irritating to mucous membranes. Taken internally it is said to be non-toxic. It is claimed to be an antiseptic. It is recommended in urethritis and cystitis, in conjunctivitis and in affections of the nose, throat and ear. **Dosage.**—It is employed in from 10 to 25 per cent. and even stronger solutions. Manufactured by Barnes & Hille, Philadelphia.

*Reprinted from The Journal of the American Medical Association.

(To be continued.)

ILLINOIS STATE MEDICAL SOCIETY

SECTION OFFICERS AND COMMITTEES.

SECTION ONE.

C. W. Lillie, E. St. Louis.....Chairman
 Ralph W. Webster, 100 State St., Chicago..
Secretary

SECTION TWO.

E. H. Ochsner, 710 Sedgwick St., Chicago..
Chairman
 H. W. Chapman, White Hall.....Secretary

COMMITTEE ON PUBLIC POLICY.

Robert B. Preble, Chairman.
 Carl E. Black, Jacksonville.
 J. W. Pettit, Ottawa.
 The President and Secretary, ex-officio.

COMMITTEE ON MEDICAL LEGISLATION.

L. C. Taylor, Springfield.
 M. S. Marcy, Peoria.
 J. V. Fowler, Chicago.
 The President and Secretary, ex-officio.

COMMITTEE ON MEDICAL EDUCATION.

Frank P. Norbury, Jacksonville.
 J. F. Percy, Galesburg.
 C. L. Mix, Chicago.

COMMITTEE ON SCIENTIFIC WORK.

The Section Officers.
 The President and Secretary.

COUNTY SOCIETIES.

This list is corrected in accordance with the best information obtainable at the date of going to press. County Secretaries are requested to notify THE JOURNAL of any changes or errors.

Adams County.

J. M. Grimes, Pres.....Camp Point
 Ralph T. Hinton, Secy.....Quincy
 Alexander County.

Samuel B. Cary, Pres.....Cairo
 J. T. Walsh, Secy.....Cairo
 Bond County.

John W. Warren, Pres.....Greenville
 J. C. Wilson, Secy.....Greenville
 Boone County.

R. W. McInnes, Pres.....Belvidere
 R. B. Andrews, Secy.....Belvidere
 Brown County.

S. J. Wilson, Pres.....Versailles
 F. E. McGann, Secy.....Mt. Sterling
 Bureau County.

J. C. White, Pres.....Seatonsville
 O. J. Flint, Secy.....Princeton
 Calhoun County.

I. S. Berry, Pres.....Batchtown
 Stephen Platt, Secy.....Hardin
 Carroll County.

G. W. Johnson, Pres.....Savanna
 H. S. Metcalf, Secy.....Mt. Carroll
 Cass County.

C. M. Hubbard, Pres.....Virginia
 J. A. Metcalf, Secy.....Virginia
 Champaign County.

J. C. Dodd, Pres.....Champaign
 C. D. Gulick, Secy.....Urbana
 Clark County.

R. Ryerson, Pres.....Martinsville
 L. J. Wier, Secy.....Marshall
 Clay County.

W. E. Burgett, Pres.....Louisville
 C. E. Duncan, Secy.....Flora
 Christian County.

J. J. Conner, Pres.....Pana
 D. D. Barr, Secy.....Taylorville
 Clinton County.

A. N. Carter, Pres.....Trenton
 J. Q. Roane, Secy.....Carlyle
 Coles County.

N. C. Iknayan, Pres.....Charleston
 O. M. Ferguson, Secy.....Mattoon
 Cook County—Chicago Medical Society.

G. W. Webster, Pres.....Chicago
 R. T. Gilmore, Secy.....Chicago
 Crawford County.

F. Dunham, Pres.....Robinson
 H. N. Rafferty, Secy.....Robinson
 Cumberland County.

G. E. Lyon, Pres.....Robinson
 Will L. Smith, Secy.....Toledo
 DeKalb County.

J. A. Badgley, Pres.....DeKalb
 C. H. Mordoff, Secy.....Genoa
 De Witt County.

A. E. Campbell, Pres.....Clinton
 G. G. Dowdall, Secy.....Clinton
 Douglas County.

E. S. Allen, Pres.....Arcola
 Walter C. Blaine, Secy.....Tuscola

Du Page County.

(Affiliated with Cook County.)
 Edgar County.

E. O. Laughlin, Pres.....Clinton
 W. A. Buchanan, Secy.....Paris
 Edwards County.

W. E. Buxton, Pres.....Samsville
 J. H. Lacey, Secy.....Albion
 Edingham County.

T. J. Dunn, Pres.....Dieterich
 C. F. Burkhardt, Secy.....Watson
 Fayette County.

H. D. Smith, Pres.....Vandalia
 A. L. T. Williams, Secy.....Vandalia
 Franklin County.

A. G. Orr, Pres.....Benton
 W. H. Smith, Secy.....Benton
 Fulton County.

T. R. Plummer, Pres.....Farmington
 D. S. Ray, Secy.....Cuba
 Gallatin County.

I. A. Foster, Pres.....New Haven
 J. W. Bowling, Secy.....Shawneetown
 Greene County.

H. W. Chapman, Pres.....Whitehall
 H. A. Chapin, Secy.....Whitehall
 Grundy County.

W. E. Walsh, Pres.....Morris
 H. M. Ferguson, Secy.....Morris
 Hamilton County.

I. I. Hall, Pres.....Broughton
 G. N. Lyons, Secy.....McLeansboro
 Hancock County.

R. R. Roberts, Pres.....Fountain Green
 C. L. Ferris, Secy.....Carthage
 Hardin County.

F. M. Fowler, Pres.....Elizabethtown
 R. H. Willingham, Secy.....Elizabethtown
 Henderson County.

I. F. Harter, Pres.....Stronghurst
 Ralph Graham, Secy.....Biggsville
 Henry County.

J. E. Westerlund, Pres.....Cambridge
 H. W. Waterous, Secy.....Galva
 Iroquois-Ford District.

D. W. Miller, Pres.....Gilman
 Robt. Lumley, Secy.....Watseka
 Jackson County.

John Keese, Pres.....Murphysboro
 H. H. Roth, Secy.....Murphysboro
 Jasper County.

H. S. Hinman, Pres.....Newton
 Jas. P. Prestley, Secy.....Newton
 Jefferson County.

J. H. Mitchell, Pres.....Mt. Vernon
 J. R. Whitlock, Secy.....Mt. Vernon
 Jersey County.

A. K. Van Horne, Pres.....Jerseyville
 H. R. Bohanan, Secy.....Jerseyville
 Jo Daviess County.

E. M. Bench, Pres.....Galena
 D. G. Smith, Secy.....Elizabeth

Johnson County.

H. D. Larue, Pres. New Burnside
H. O. Williams, Secy. Belknap

Kane-McHenry District.

J. F. Bell, Pres. Elgin
G. S. Allen, Secy. Aurora

Kankakee County.

B. F. Uran, Pres. Kankakee
A. S. Kenega, Secy. Kankakee

Kendall County.

T. B. Drew, Pres. Oswego
R. A. McClelland, Secy. Yorkville

Knox County.

J. H. Brown, Pres. Rio
G. S. Bower, Secy. Galesburg

Lake County

E. H. Pomeroy, Pres. Highland Park
A. C. Haven, Secy. Lake Forest

La Salle County.

F. A. Wiley, Pres. Earlville
W. A. Pike, Secy. Ottawa

Lawrence County.

B. F. Hockman, Pres. Sumner
C. P. Gore, Secy. Lawrenceville

Lee County.

C. H. Ives, Pres. Dixon
S. W. Lehman, Secy. Dixon

Livingston County.

J. B. Baker, Pres. Pontiac
John Ross, Secy. Pontiac

Logan County.

L. L. Leeds, Pres. Lincoln
H. S. Oyler, Secy. Lincoln

McDonough County.

J. B. Bacon, Secy. Macomb
McHenry County.

(See Kane-McHenry District.)

McLean County.

Thos. W. Bath, Pres. Bloomington
O. M. Rhodes, Secy. Bloomington

Macon County—Decatur Medical Society.

C. Chenoweth, Pres. Decatur
M. W. Fitzpatrick, Secy. Decatur

Macoupin County.

Wm. M. Gross, Pres. Gillespie
P. J. Palmer, Secy. Carlinville

Madison County.

T. P. Yakes, Pres. Upper Alton
E. W. Flegenbaum, Secy. Edwardsville

Marion County.

J. E. Schoonover, Pres. Salem
W. W. Murfin, Secy. Patoka

Marshall County.

J. W. Potts, Pres. Lacon
J. A. Swem, Secy. Henry

Mason County.

H. H. Hanley, Pres. Havana
A. L. Cook, Secy. Mason City

Massac County.

M. H. Trovillion, Pres. Metropolis
A. C. Ragsdale, Secy. Metropolis

Menard County.

A. L. Britten, Pres. Athens
Irving Newcomer, Secy. Petersburg

Mercer County.

V. A. McClanahan, Pres. Viola
I. E. Burtnett, Secy. Joy

Monroe County.

Otto Kuehn, Pres. Burksville
L. Adesberger, Secy. Waterloo

Montgomery County.

P. M. Kelly, Pres. Litchfield
H. F. Bennett, Secy. Litchfield

Morgan County.

E. L. Crouch, Pres. Jacksonville
Allen M. King, Secy. Jacksonville

Moultrie County.

W. E. Stedman, Pres. Sullivan
F. P. Zennett, Secy. Sullivan

Ogle County.

J. A. Johnston, Pres. Byron
F. W. Mitchell, Secy. Leaf River

Peoria City Medical Society.

B. M. Stephenson, Pres. Peoria
J. H. Bacon, Secy. Peoria

Perry County.

W. L. McCandless, Pres. Pinckneyville
J. W. Smith, Secy. Pinckneyville

Piatt County.

W. F. Matson, Pres. Monticello
B. L. Barker, Secy. White Heath

Pike County.

F. Marion Crane, Pres. Pittsfield
R. H. Main, Secy. Barry

Pope County.

Jas. Dixon, Pres. Hartsville
W. A. Sims, Secy. Golconda

Pulaski County.

Monroe Doty, Pres. Grand Chain
A. W. Tarr, Secy. Grand Chain

Putnam County.

G. A. McCormick, Pres. Hennepin
R. G. Dakin, Secy. Magnolia

Randolph County.

H. C. Adderly, Pres. Chester
C. G. Smith, Secy. Red Bud

Richland County.

H. T. Watkins, Pres. Olney
E. H. Horner, Secy. Olney

Rock Island County.

F. H. Gardner, Pres. Moline
Ralph Dart, Secy. Moline

St. Clair County.

Hugo Wangelin, Pres. Belleville
J. W. Twitchell, Secy. Belleville

Saline County.

J. R. Baker, Secy. Harrisburg
Sangamon County.

Sangamon County.

A. D. Taylor, Pres. Springfield
C. L. Patton, Secy. Springfield

Schuyler County.

A. W. Ball, Pres. Rushville
W. F. Harvey, Secy. Rushville

Scott County.

J. W. Wells, Pres. Manchester
J. P. Campbell, Secy. Winchester

Shelby County.

W. J. Eddy, Pres. Shelbyville
C. L. Smith, Secy. Shelbyville

Stark County.

W. T. Hall, Pres. Toulon
Arthur Parsons, Secy. Toulon

Stephenson County.

R. J. Burns, Pres. Freeport
Mary L. Rosensteel, Secy. Freeport

Tazewell County.

E. F. Kelchner, Pres. Delavan
C. G. Muehlmann, Secy. Pekin

Union County.

S. C. Martin, Pres. Anna
H. J. Lyerly, Secy. Jonesboro

Vermilion County.

T. E. Walton, Pres. Danville
E. E. Clark, Secy. Danville

Wabash County.

R. J. McMurray, Pres. Linn
G. C. Kingsbury, Secy. Mt. Carmel

Warren County.

E. C. Linn, Pres. Monmouth
A. G. Patton, Secy. Monmouth

Washington County.

J. J. Troutt, Pres. Nashville
D. S. Neer, Secy. Beaucoup

Wayne County.

F. Bean, Pres. Fairfield
J. P. Walters, Secy. Fairfield

Whiteside County.

E. P. Sullivan, Pres. Morrison
A. H. Karns, Secy. Sterling

White County.

M. J. Hopkins, Pres. Burnt Prairie
F. C. Sibley, Secy. Carmi

Will County.

Alfred Nash, Pres. Joliet
M. K. Bowles, Secy. Joliet

Williamson County.

A. M. Edwards, Pres. Marion
D. D. Hartwell, Secy. Marion

Winnebago County.

T. H. Culhane, Pres. Rockford
W. E. Park, Secy. Rockford

Woodford County.

H. A. Millard, Pres. Mineral
Jos. I. Knoblauch, Secy. Metamora

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